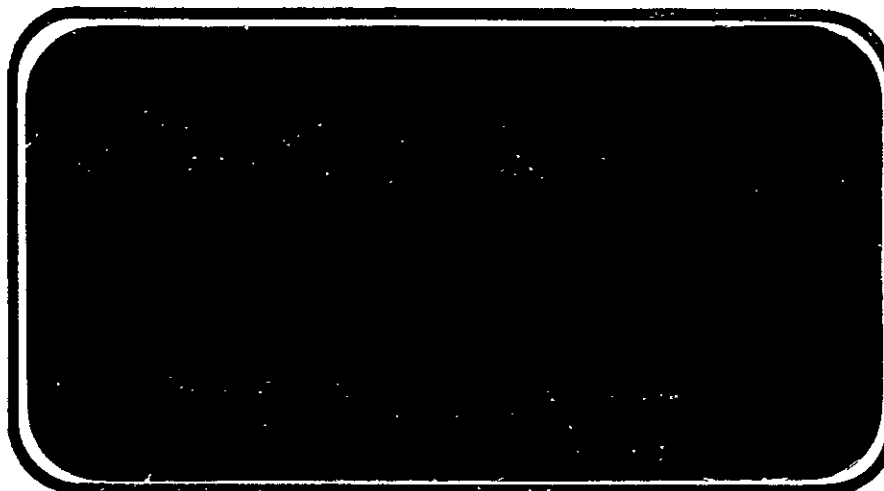




NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NASA CR-

144590



(NASA-CR-144590) AN INVESTIGATION OF THE  
0.0091 SCALE EXTERNAL TANK OGIVE NOSE (MSFC  
MODEL 470) IN THE MSFC 14 INCH TWT TO  
DETERMINE THE PRESSURE DISTRIBUTION AROUND  
THE EXTERNAL TANK NOSE (TA3F), VOLUME 1

N76-16144

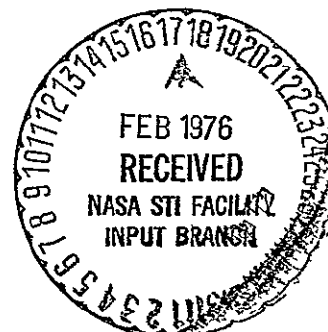
HC \$12.75

Unclas

G3/18 09602

SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA Management services

SPACE DIVISION



CHRYSLER  
CORPORATION

December 1975

DMS-DR-2208  
NASA CR-144,590

VOLUME 1 OF 2

AN INVESTIGATION OF THE 0.0091 SCALE EXTERNAL  
TANK OGIVE NOSE (MSFC MODEL 470) IN THE  
MSFC 14 INCH TWT TO DETERMINE THE PRESSURE  
DISTRIBUTION AROUND THE EXTERNAL  
TANK NOSE (TA3F)

by

Paul E. Ramsey, MSFC  
G. W. Winkler, NSI  
T. C. Davis, NSI

Prepared under NASA Contract Number NAS9-13247

by

Data Management Services  
Chrysler Corporation Space Division  
New Orleans, La. 70189

for

Engineering Analysis Division  
Johnson Space Center  
National Aeronautics and Space Administration  
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number: MSFC TWT 609  
NASA Series No.: TA3F  
Model Number: 470  
Test Dates: September 26 - October 11, 1974

FACILITY COORDINATOR:

Mr. Dale Andrews  
Marshall Space Flight Center  
Mail Stop ED32  
Huntsville, Alabama 35801

Phone: (205) 453-3174

PROJECT ENGINEERS:

Mr. Paul E. Ramsey  
Marshall Space Flight Center  
Mail Stop ED32  
Huntsville, Alabama 35801

Phone: (205) 453-3152

Mr. Gary W. Winkler  
Northrop Services, Inc.  
6025 Technology Drive  
Huntsville, Alabama 35807

Phone: (205) 837-0580


Mr. T. C. Davis  
Northrop Services, Inc.  
6025 Technology Drive  
Huntsville, Alabama 35807


Phone: (205) 837-0580

DATA MANAGEMENT SERVICES:

Prepared by: Liaison -- V. W. Sparks  
Operations -- V. W. Sparks

Reviewed by: G. G. McDonald

Approved:   
J. L. Glynn, Manager  
Data Operations

Concurrence:   
N. D. Kemp, Manager  
Data Management Services

Chrysler Corporation Space Division assumes no responsibility for the data presented other than display characteristics.

AN INVESTIGATION OF THE 0.0091 SCALE EXTERNAL  
TANK OGIVE NOSE (MSFC MODEL 470) IN THE  
MSFC 14 INCH TWT TO DETERMINE THE PRESSURE  
DISTRIBUTION AROUND THE EXTERNAL  
TANK NOSE (TA3F)

by

Paul E. Ramsey\*, G. W. Winkler\*\*, T. C. Davis\*\*

ABSTRACT

A wind tunnel pressure test of the Space Shuttle External Tank Nose, TWT 609, was conducted in the MSFC 14" by 14" trisonic wind tunnel during October of 1974. The model was a 0.0091 scale representation of the ogive nose section of the External Tank with nose cap and lightning rod and protuberances. The designation MSFC model #470 has been assigned to the model and its support hardware. The NASA test series number is TA3F. The primary purpose of the test was to determine the pressure distribution around the nose cap. Pressure data were also obtained along the ogive nose.

Data were obtained over an angle of attack range of  $\pm 5$  degrees and over a Mach number range of .6 to 4.96. The Reynolds number per unit length (ft.) ranged from  $4.1 \times 10^6$  to  $4.96 \times 10^6$ . There were 22 pressure ports in a single row. Circumferential positions of 0, 22.5, 45, 67.5 and 90 degrees were simulated by rotating the model. The LO<sub>2</sub> feed line and LO<sub>2</sub> recirculation line were simulated. The effects of the nose spike were investigated over a range of Mach numbers.

\* MSFC

\*\*NSI



(THIS PAGE INTENTIONALLY LEFT BLANK.)

## TABLE OF CONTENTS

	Page
ABSTRACT	iii
INDEX OF MODEL FIGURES	2
INDEX OF DATA FIGURES	3
NOMENCLATURE	4
INTRODUCTION	6
MODEL AND SUPPORT HARDWARE	7
INSTRUMENTATION	9
CONFIGURATIONS INVESTIGATED	10
TEST FACILITY DESCRIPTION	11
DATA REDUCTION	13
REFERENCES	14
TABLES	
I. TEST CONDITIONS	15
II.A. DATA SET/RUN NUMBER COLLATION SUMMARY	16
II.B. COMBINED DATA SETS	23
III. MODEL DIMENSIONAL DATA	27
IV. PORT NUMBER LOCATION	28
FIGURES	
MODEL	29
DATA (VOLUME 1)	37
APPENDIX -	
TABULATED SOURCE DATA (VOLUME 2)	37

# INDEX OF MODEL FIGURES

Figure	Title	Page
1.	Body and Missile Axis Systems.	29
2.	Configuration Definition from Rockwell Drawing VL78-000062B.	30
3.	Orifice and Nose Protuberance Location.	31
4.	Nose Protuberance, LO <sub>2</sub> Feed Line and LO <sub>2</sub> Recirculation Line Combined.	32
5.	Installation Photograph of ET Nose with Lightning Rod (Nose Spike).	33
6.	Installation Photograph of ET Nose without Lightning Rod.	34
7.	Flow Visualization Photograph of Nose at M = 1.96 and $\alpha = 5^\circ$ (with Lightning Rod).	35
8.	Flow Visualization Photograph of Nose at M = 1.96 and $\alpha = 5^\circ$ (without Lightning Rod).	36

# INDEX OF DATA FIGURES

TITLE	SCHEDULE OF COEFFICIENTS PLOTTED	CONDITIONS VARYING	PAGES
EFFECT OF RADIAL LOCATION ON PRESSURE	(A)	X/L, MACH, ALPHA	1-308
EFFECT OF LONGITUDINAL POSITION ON PRESSURE	(B)	THETA, MACH, ALPHA	309-462
EFFECT OF ANGLE OF ATTACK ON PRESSURE	(B)	ALPHA, MACH	463-479
PLOTTED COEFFICIENTS SCHEDULE:			
(A) CP VERSUS THETA			
(B) CP VERSUS X/L			

NOMENCLATURE  
General

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>	<u>UNITS</u>
$C_p$	CP	pressure coefficient; $(p_1 - p_\infty)/q_\infty$	
ET		External Tank	
$\ell_B$	LBODY	length of the ET	in.
M		Mach number	
$P_1$		local pressure	psi
$P_t$		total pressure	psi
$P_\infty$		freestream pressure	psi
$q_\infty$	Q(Psi)	freestream dynamic pressure unit	psi
$R_N/L$	RN/L	Reynolds number per unit length	
$T_t$		freestream total temperature ( $^{\circ}F$ )	deg.
X		distance from nose of Tank model in the negative $X_m$ direction	in.
$X_T, Y_T, Z_T$		tank stations; (see Figure 1)	in.
$X/\ell_B$	$\bar{X}/L$	longitudinal location of pressure measurement, expressed as a fraction of the ET length, measured from the ET nose	

GREEK SYMBOLS

$\alpha$	ALPHA	angle of attack	deg.
$\phi$	PHI	angle of roll	deg.
$\theta$	THETA	circumferential location	deg.

SUBSCRIPTS

ref	reference conditions
$\infty$	freestream conditions

# NOMENCLATURE (Concluded)

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>
o		orbiter
t		total conditions
T		external tank
m		missile axis system
l		local

## INTRODUCTION

The Space Shuttle External Tank as defined by reference drawing VL78-000062B (see Figure 2) has a 610-inch radius ogive nose with a nose cap and lightning rod. This nose cap contains the vent valves for the ET LO<sub>2</sub> tank. In order to perform analytical venting analyses it is desirable to know the pressure distribution around the vent as accurately as possible. A pressure test was thus conducted to determine the pressure distribution around the ET nose cap. Pressure taps were also located on the ogive to give the entire distribution of pressures around the nose.

The ET model included the forward ogive nose section, the nose cap and lightning rod, the LO<sub>2</sub> feed line and LO<sub>2</sub> recirculation line protuberances, and a short portion of the ET cylindrical body. The aft end of the model corresponded to tank station,  $X_T = 923.54$ . Model scale is .0091. This model size gave a tunnel blockage of 3.6%.

Local pressure data were obtained for Mach numbers of .6, .8, .9, 1.2, 1.46, 1.96, and 4.96. The angle of attach range was from -5 to +5 degrees in 1 degree increments. Additional runs were made at Mach numbers of 1.96, 3.0, 4.0 and 4.96 and angles of attach of 0 degrees and +10 degrees. Table I gives tunnel flow conditions for the test Mach numbers. A run schedule is shown in Table II. Runs were made with and without the lightning rod.

## MODEL AND SUPPORT HARDWARE

The ET pressure model, MSFC model #470, was a .0091-scale representation of the ogive nose and forward section of the ET. Only that portion of the ET forward of full scale  $X_T$  station 923.54 was modeled. This gave a total model length (including lightning rod) of 5.681 inches. Model diameter was 3.000 inches. Figures 5 and 6 show installation photographs of the model.

There were twenty-two, .032 inch O.D. pressure ports located on the nose cap and ogive. Seven ports were on the nose cap, five on the upper surface. Two ports were located on the lower surface because of a lack of space on the upper surface. The remaining ports were distributed along the length of the ogive nose with some corresponding to ports located on past ET models. The model and associated pressure ports can be seen in Figure 3. Table IV gives the port number along with the  $X$  and  $X/\ell_B$  position. The two ports on the lower side of the nose cap are numbered 2 and 4.

The external protuberances that are located on the ogive nose (see Figure 2) were also modeled. The protuberances are the  $LO_2$  feed-line and  $LO_2$  recirculation line combined. Model drawings of the protuberances are shown in Figure 4.

In order to obtain data for circumferential pressure distributions in the first quadrant of the nose, the model was rotated but the nose protuberance was held in the same position relative to the wind tunnel. Since the pressure distribution was required every 22.5 degrees, holes were drilled and tapped in the model every 22.5 degrees from the initial



#### MODEL AND SUPPORT HARDWARE (Concluded)

position of the protuberance ( $\theta=0$  degrees to a point 90 degrees away). The direction of rotation of the model was clockwise when viewing it from the rear. This did not simulate vehicle roll but gave the pressure distribution at 0 degrees roll angle. Because of the lower two ports, the protuberance was also placed in the third quadrant and the model rotated as noted above. By determining the proper combinations of protuberance location and angle of attack, the data from the two lower ports were combined with that from the remaining upper ports to obtain one complete set of data.

The model was supported by a .875-inch diameter sting that was built integral with the model. The sting is shown in the model drawing of Figure 3. Sting deflections were considered negligible because of the relatively large sting diameter, the small angle of attack range, and the relatively small normal forces the model encountered.

## INSTRUMENTATION

Eight scanivalves equipped with 50 psia pressure transducers were required to monitor the 22 pressure ports on the ET model.<sup>f</sup> The location of these ports and corresponding tubes by number are shown in Table IV. Table V shows the correlation between port number and scanivalve position. Port numbers were labeled with a tag on each tube.

In addition to configuration photographs, flow visualization photographs (shadowgraphs) were made at 0, 5, and 10 degrees angle of attack. These runs are noted by a /9 in the run schedule of Table II.A. Two of these photographs (with and without spike at  $M = 1.96$  and  $\alpha = 5^\circ$ ) are shown in Figures 7 and 8.

### CONFIGURATIONS INVESTIGATED

Two configurations were investigated during the test. They consisted of the external tank nose alone and with the lightning rod nose spike. Model dimensional data is shown in Table III.

## TEST FACILITY DESCRIPTION

The Marshall Space Flight Center 14" x 14" Trisonic Wind Tunnel is an intermittent blowdown tunnel which operates by high pressure air flowing from storage to either vacuum or atmospheric conditions. A Mach number range from .2 to 5.85 is covered by utilizing two interchangeable test sections. The transonic section permits testing at Mach 0.20 through 2.50, and the supersonic section permits testing at Mach 2.74 through 5.85. Mach numbers between .2 and .9 are obtained by using a controllable diffuser. The range from .95 to 1.3 is achieved through the use of plenum suction and perforated walls. Mach numbers of 1.44, 1.93 and 2.50 are produced by interchangeable sets of fixed contour nozzle blocks. Above Mach 2.50 a set of fixed contour nozzle blocks are tilted and translated automatically to produce any desired Mach number in .25 increments.

Air is supplied to a 6000 cubic foot storage tank at approximately -40°F dew point and 500 psi. The compressor is a three-stage reciprocating unit driven by a 1500 hp motor.

The tunnel flow is established and controlled with a servo-actuated gate valve. The controlled air flows through the valve diffuser into the stilling chamber and heat exchanger where the air temperature can be controlled from ambient to approximately 180°F. The air then passes through the test section which contains the nozzle blocks and test region.

Downstream of the test section is a hydraulically controlled pitch sector that provides a total angle-of-attack range of 20° (+10°). Sting offsets are available for obtaining various maximum angles of attack up to 25°.

## TEST FACILITY DESCRIPTION (Concluded)

The diffuser section has movable floor and ceiling panels which are the primary means of controlling the subsonic Mach numbers and permit more efficient running supersonically. The sector assembly and supersonic diffuser telescope into the subsonic diffuser to allow easy access to the model and test section.

Tunnel flow is exhausted through an acoustically damped tower to atmosphere or into the vacuum field of 42,000 cubic feet. The vacuum tanks are evacuated by vacuum pumps driven by electric motors rated at a total of 500 hp.

Data are recorded by a solid-state digital data acquisition system. The digital data are transferred to punched cards during the run to be reduced later by a computer to proper coefficient form.

## DATA REDUCTION

A set of twenty-two static pressure measurements were recorded on each run. The pressure data was then reduced to coefficient form with the following equation:

$$C_p = (P_1 - P_\infty)/q_\infty$$

A separate computer program was written to collate the pressure data from ports 2 and 4 with the pressure data of other ports. The resultant data plots show a continuous pressure distribution for each longitudinal and circumferential location. The data listed for a circumferential location of 0 degrees and at -5 degrees angle of attack will contain values for ports 2 and 4 taken from data at a circumferential location of 180 degrees and -5 degrees angle of attack. The relocation of data for ports 2 and 4 are made at the same Mach numbers, angles of attack, and roll angles.

Plots of the pressure coefficients versus both longitudinal station ( $C_p$  vs.  $X/l_p$ ) and circumferential location ( $C_p$  vs.  $\theta$ ) are presented for each of the Mach numbers, angles of attack, and roll angles. Tabulated data of the pressure coefficients, longitudinal stations, and their circumferential locations are presented in the Appendix.

## REFERENCES

### Reports

1. NASA TMX-53185, "The George C. Marshall Space Flight Center's 14 x 14 Inch Trisonic Wind Tunnel Technical Handbook", Simon Erwin; December 1964.
2. NSI-M-9230-74-270, "A Pre-test Report for MSFC TWT 596, An Investigation to Determine the Static Pressure Distributions During Reentry of a 0.003-scale Modified MCR 200 Space Shuttle External Tank Model in the NASA-MSFC 14 x 14 Inch Trisonic Wind Tunnel", Robertson, M. K. and Winkler, G. W., April 1974.

### Drawings

1. VL78-000062 "B", 2-7-74; Thermal, Lightning Field and Aerodynamic Model - 330.2 Diameter External Tank - Shuttle Study; Rockwell International.

TABLE I.

TEST TWT 609			DATE 10/11/74	
TEST CONDITIONS				
MACH NUMBER	REYNOLDS NUMBER (per unit length)	DYNAMIC PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)	STAGNATION PRESSURE (pounds/sq inch)
0.6	4.97 x 10 <sup>6</sup> /ft	4.32	101	22.0
0.8	5.94	6.46	101	22.0
0.9	6.27	7.40	101	22.0
1.2	6.67	9.14	101	22.0
1.46	6.54	9.48	99	22.0
1.96	7.04	10.27	103	28.0
3.0	8.17	10.37	144	60.0
4.0	6.25	5.53	139	75.0
4.96	4.23	2.56	127	75.0

BALANCE UTILIZED N.A. (See instrumentation section)

	CAPACITY:	ACCURACY	COEFFICIENT TOLERANCE.
NF	_____	_____	_____
SF	_____	_____	_____
AF	_____	_____	_____
PM	_____	_____	_____
RM	_____	_____	_____
YM	_____	_____	_____

COMMENTS *Pressure test; eight scanivalves with 50 psia pressure transducers.*



Table II.A.

TEST: TWT 609		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE .						
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )									
		$\alpha$	$\beta$	$\theta$	$\phi$				0.6	0.8	0.9	1.2	1.46	1.96	4.96			
RIG 001	ET NOSE	-5	0°	0°	0°			7	604	593	582	571	285	186	2			
002		-4						7	605	594	583	572	286	187	3			
003		-3						7	606	595	584	573	287	188	4			
004		-2						7	607	596	585	574	288	189	5			
005		-1						7	608	597	586	575	289	190	6			
006		0						7	609	598	587	576	290	191	7			
007		1						7	610	599	588	577	291	192	8			
008		2						7	611	600	589	578	292	193	9			
009		3						7	612	601	590	579	293	194	10			
010		4						7	613	602	591	580	294	195	11			
011		5						7	614	603	592	581	295	196	12			
012		-5		22.5				7	615	626	637	648	274	197	20			
013		-4						7	616	627	638	649	275	198	21			
014		-3						7	617	628	639	650	276	199	22			
015		-2						7	618	629	640	651	277	200	23			
016		-1						7	619	630	641	652	278	201	24			
017		0						7	620	631	642	653	279	202	25			
018		1						7	621	632	643	654	280	203	26			

16

TEST RUN NUMBERS

1 7 13 19 25 31 37 43 49 55 61 67 75 76

CP

$\alpha$  OR  $\beta$   
SCHEDULES

COEFFICIENTS

IDVAR (1)

IDVAR (2)

NOV

TABLE II.A. (Continued)

TEST: TWT 609

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE:

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )									
		$\alpha$	$\beta$	$\Theta$	$\phi$				6	8	9	1.20	1.46	1.96	4.96			
RIG 019	ET NOSE	2	0	22.5	0°			7	622	633	644	655	281	204	27			
020		3						7	623	634	645	656	282	205	28			
021		4						7	624	635	646	657	283	206	29			
022		5		▼				7	625	636	647	658	284	207	30			
023		-5		45				7	692	681	670	659	263	208	31			
024		-4						7	693	682	671	660	264	209	32			
025		-3						7	694	683	672	661	265	210	33			
026		-2						7	695	684	673	662	266	211	34			
027		-1						7	696	685	674	663	267	212	35			
028		0						7	697	686	675	664	268	213	36			
029		1						7	698	687	676	665	269	214	37			
030		2						7	699	688	677	666	270	215	38			
031		3						7	700	689	678	667	271	216	39			
032		4						7	701	690	679	668	272	217	40			
033		5		▼				7	702	691	680	669	273	218	41			
034		-5		67.5				7	703	714	725	736	252	219	42			
035		-4						7	704	715	726	737	253	220	43			
▼ 036	▼	-3	▼	▼	▼			7	705	716	727	738	254	221	44			

171319253137434955616775 76

COEFFICENTS

IDVAR (1)IDVAR (2)NDV

$\alpha$  OR  $\beta$

SCHEDULES

Table II.A.(Continued)

TEST: TWT 609		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE:						
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )									
		$\alpha$	$\beta$	$\theta$	$\phi$				.6	.8	.9	1.20	1.46	1.96	4.96			
RIG 037	ET NOSE	-2	0	67.5	0			7	706	717	728	739	255	222	45			
038		-1						7	707	718	729	740	256	223	46			
039		0						7	708	719	730	741	257	224	47			
040		1						7	709	720	731	742	258	225	48			
041		2						7	710	721	732	743	259	226	49			
042		3						7	711	722	733	744	260	227	50			
043		4						7	712	723	734	745	261	228	51			
044		5		▼				7	713	724	735	746	262	229	52			
045		-5		90				7	780	769	758	747	241	230	53			
046		-4						7	781	770	759	748	242	231	54			
047		-3						7	782	771	760	749	243	232	55			
048		-2						7	783	772	761	750	244	233	56			
049		-1						7	784	773	762	751	245	234	57			
050		0						7	785	774	763	752	246	235	58			
051		1						7	786	775	764	753	247	236	59			
052		2						7	787	776	765	754	248	237	60			
053		3						7	788	777	766	755	249	238	61			
▼ 054	▼	4	▼	▼	▼			7	789	778	767	756	250	239	62			
1 7 13 19 25 31 37 43 49 55 61 67 75 76																		
COEFFICIENTS IDVAR (1) IDVAR (2) NDV																		
$\alpha$ OR $\beta$																		
SCHEDULES																		

Table II.A(Continued)

TEST: TWT 609		DATA SET/RUN NUMBER COLLATION SUMMARY													DATE			
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO OF RUNS	MACH NUMBERS ( OR ALTERN-TE INDEPENDENT VARIABLE )									
		$\alpha$	$\beta$	$\theta$	$\phi$				0.6	0.8	0.9	1.2	1.46	1.96	4.96			
RIG 055	ET NOSE	5	0	90	0			7	790	779	768	757	251	240	63			
056		-5		180				7	527	538	549	560	296	172	64			
057		-4						7	528	539	550	561	297	173	65			
058		-3						7	529	540	551	562	298	174	66			
059		-2						7	530	541	552	563	299	175	67			
060		-1						7	531	542	553	564	300	176	68			
061		0						7	532	543	554	565	301	177	69			
062		1						7	533	544	555	566	302	178	70			
063		2						7	534	545	556	567	303	179	71			
064		3						7	535	546	557	568	304	180	72			
065		4						7	536	547	558	569	305	181	73			
066		5						7	537	548	559	570	306	182	74			
067		-5		2025				7	516	505	494	483	307	160	83			
068		-4						7	517	506	495	484	308	161	84			
069		-3						7	518	507	496	485	309	162	85			
070		-2						7	519	508	497	486	310	163	86			
071		-1						7	520	509	498	487	311	164	87			
072		0						7	521	510	499	488	312	165	88			
1 7 13 19 25 31 37 43 49 55 61 67 75 76																		
COEFFICENTS IDVAR (1) IDVAR (2) NDV																		
$\alpha$ OR $\beta$ SCHEDULES																		

Table II.A.(Continued)

TEST: TWT 609		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE:						
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )									
		$\alpha$	$\beta$	$\Theta$	$\Phi$				6	8	9	1.2	1.46	1.96	4.96			
RIG 073	ET NOSE	1	0	202.5	0			7	522	511	500	489	313	166	89			
074		2						7	523	512	501	490	314	167	90			
075		3						7	524	513	502	491	315	168	91			
076		4						7	525	514	503	492	316	169	92			
077		5		↓				7	526	515	504	493	317	170	93			
078		-5		225				7	439	450	461	472	318	149	94			
079		-4						7	440	451	462	473	319	150	95			
080		-3						7	441	452	463	474	320	151	96			
081		-2						7	442	453	464	475	321	152	97			
082		-1						7	443	454	465	476	322	153	98			
083		0						7	444	455	466	477	323	154	99			
084		1						7	445	456	467	478	324	155	100			
085		2						7	446	457	468	479	325	156	101			
086		3						7	447	458	469	480	326	157	102			
087		4						7	448	459	470	481	327	158	103			
088		5		↓				7	449	460	471	482	328	159	104			
089		-5		247.5				7	428	417	406	395	329	138	105			
↓ 090	↓	-4	↓	↓	↓			7	429	418	407	396	330	139	106			
1 7 13 19 25 31 37 43 49 55 61 67 75 76																		
COEFFICIENTS IDVAR (1) IDVAR (2) NDV																		
$\alpha$ OR $\beta$																		
SCHEDULES																		

Table II.A.(Continued)

TEST: TWT 609

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE .

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )									
		$\alpha$	$\beta$	$\theta$	$\phi$				0.6	0.8	0.9	1.2	1.46	1.96	4.96			
RIG 091	ET NOSE	-3	0	247.5	0			7	430	419	408	397	331	140	107			
092		-2						7	431	420	409	398	332	141	108			
093		-1						7	432	421	410	399	333	142	109			
094		0						7	433	422	411	400	334	143	110			
095		1						7	434	423	412	401	335	144	111			
096		2						7	435	424	413	402	336	145	112			
097		3						7	436	425	414	403	337	146	113			
098		4						7	437	426	415	404	338	147	114			
099		5		▼				7	438	427	416	405	339	148	115			
100		-5		270				7	351	362	373	384	340	127	116			
101		-4						7	352	363	374	385	341	128	117			
102		-3						7	353	364	375	386	342	129	118			
103		-2						7	354	365	376	387	343	130	119			
104		-1						7	355	366	377	388	344	131	120			
105		0						7	356	367	378	389	345	132	121			
106		1						7	357	368	379	390	346	133	122			
107		2						7	358	369	380	391	347	134	123			
▼ 108	▼	3	▼	▼	▼			7	359	370	381	392	348	135	124			

171319253137434955616775 76

COEFFICIENTS

IDVAR (1)IDVAR (2)NDV

$\alpha$  OR  $\beta$

SCHEDULES

Table II.A.(Continued)

TEST :		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE :								
DATA SET IDENTIFIER	CONFIGURATION	SCHED.		PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )											
		$\alpha$	$\beta$	$\Theta$	$\Phi$				0.6	0.8	0.9	1.20	1.46	1.96	4.96	3.00	4.00			
R1G 109	ET NOSE	4°	0°	270°	0°			7	360	371	382	393	349	136	125					
110		5°		270°				7	361/9	372/9	383/9	394/9	350/9	137/9	126					
111		0°		0°				2								17	14			
112		10°						4						184	13	18	15			
113		-10°						4						185	1	19	16			
114		0°		180°				2								81	78			
115		10°						4						183	75	82	79			
116		-10°						4						171	76	80	77			
117	ET NOSE	-5°		0°	0°			7	791	796	801	806	811	816	825					
118 (LIGHTNING ROD OFF)		-2°						7	792	797	802	807	812	817	826					
119		0						9	793/9	798/9	803/9	808/9	813/9	818/9	827	836	832			
120		2						7	794	799	804	809	814	819	828					
121		5						7	795/9	800/9	805/9	810/9	815/9	820/9	829					
122		10						4						822/9	831	837	834			
123		-10						4						821/9	830	835	833			
124		0		180°				2								839	842			
125		10						4						824	845	840	843			
126		-10						4						823	844	838	841			
		1	7	13	19	25	31	37	43	49	55	61	67	75	76					
COEFFICIENTS																		IDVAR (1)	IDVAR (2)	NOV
$\alpha$ OR $\beta$																				
SCHEDULES																				

TABLE II.B.

## COMBINED DATASETS

<u>Resulting Dataset</u>	<u>Datasets Combined to Form Resulting Dataset</u>	<u>Theta, <math>\theta</math>, Degrees</u>
BIG 001	RIG 001	0
	RIG 012	22.5
	RIG 023	45
	RIG 034	67.5
	RIG 045	90
	RIG 056	180
	RIG 067	202.5
	RIG 078	225
	RIG 089	247.5
	RIG 100	270
BIG 002	RIG 002	0
	RIG 013	22.5
	RIG 024	45
	RIG 035	67.5
	RIG 046	90
	RIG 057	180
	RIG 068	202.5
	RIG 079	225
	RIG 090	247.5
BIG 003	RIG 003	0
	RIG 014	22.5
	RIG 025	45
	RIG 036	67.5
	RIG 047	90
	RIG 058	180
	RIG 069	202.5
	RIG 080	225
	RIG 091	247.5
	RIG 102	270



TABLE II.B. (Continued)

COMBINED DATASETS		
<u>Resulting Dataset</u>	<u>Datasets Combined to Form Resulting Dataset</u>	<u>Theta, <math>\theta</math>, Degrees</u>
BIG 004	RIG 004	0
	RIG 015	22.5
	RIG 026	45
	RIG 037	67.5
	RIG 048	90
	RIG 059	180
	RIG 070	202.5
	RIG 081	225
	RIG 092	247.5
	RIG 103	270
BIG 005	RIG 005	0
	RIG 016	22.5
	RIG 027	45
	RIG 038	67.5
	RIG 049	90
	RIG 060	180
	RIG 071	202.5
	RIG 082	225
	RIG 093	247.5
	RIG 104	270
BIG 006	RIG 006	0
	RIG 017	22.5
	RIG 028	45
	RIG 039	67.5
	RIG 050	90
	RIG 061	180
	RIG 072	202.5
	RIG 083	225
	RIG 094	247.5
	RIG 105	270

TABLE II.B. (Continued)

COMBINED DATASETS		
<u>Resulting Dataset</u>	<u>Datasets Combined to Form Resulting Dataset</u>	<u>Theta, <math>\theta</math>, Degrees</u>
BIG 007	RIG 007	0
	RIG 018	22.5
	RIG 029	45
	RIG 040	67.5
	RIG 051	90
	RIG 062	180
	RIG 073	202.5
	RIG 084	225
	RIG 095	247.5
	RIG 106	270
BIG 008	RIG 008	0
	RIG 019	22.5
	RIG 030	45
	RIG 041	67.5
	RIG 052	90
	RIG 063	180
	RIG 074	202.5
	RIG 085	225
	RIG 096	247.5
	RIG 107	270
BIG 009	RIG 009	0
	RIG 020	22.5
	RIG 031	45
	RIG 042	67.5
	RIG 053	90
	RIG 064	180
	RIG 075	202.5
	RIG 086	225
	RIG 097	247.5
	RIG 108	270

TABLE II.B. (Concluded)

COMBINED DATASETS		
<u>Resulting Dataset</u>	<u>Datasets Combined to Form Resulting Dataset</u>	<u>Theta, <math>\theta</math>, Degrees</u>
BIG 010	RIG 010	0
	RIG 021	22.5
	RIG 032	45
	RIG 043	67.5
	RIG 054	90
	RIG 065	180
	RIG 076	202.5
	RIG 087	225
	RIG 098	247.5
	RIG 109	270
BIG 011	RIG 011	0
	RIG 022	22.5
	RIG 033	45
	RIG 044	67.5
	RIG 055	90
	RIG 066	180
	RIG 077	202.5
	RIG 088	225
	RIG 099	247.5
	RIG 110	270
<u>Resulting Dataset</u>	<u>Datasets Combined to Form Resulting Dataset</u>	<u>Alpha, <math>\alpha</math>, Degrees</u>
A1G006	R1G113	-10
	R1G006	0
	R1G111	0
	R1G112	10
A1G117	R1G117	-5
	R1G118	-2
	R1G119	0
	R1G120	2
	R1G121	5
A1G123	R1G123	-10
	R1G119	0
	R1G122	10

Table III.

## MODEL DIMENSIONAL DATA

MODEL COMPONENT: BODY - ET NOSEGENERAL DESCRIPTION: EXTERNAL OXYGEN-HYDROGEN TANK NOSE CONE WITH NOSEPROTUBERANCEMODEL SCALE = .0091DRAWING NUMBER: VL78-000062B

<u>DIMENSIONS:</u>	<u>THEORETICAL</u>		<u>ACTUAL MEASURED</u>
	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>	<u>MODEL SCALE</u>
Length, IN. (NOSE @ $X_T=298$ )	<u>624.835</u>	<u>5.681</u>	<u>          </u>
Max. Width, IN. DIA	<u>330.2</u>	<u>3.000</u>	<u>          </u>
Max. Depth	<u>          </u>	<u>          </u>	<u>          </u>
Fineness Ratio	<u>          </u>	<u>          </u>	<u>          </u>
Area			
Max. Cross-Sectional	<u>85633.6</u>	<u>7.07 IN.<sup>2</sup></u>	<u>          </u>
Planform	<u>          </u>	<u>          </u>	<u>          </u>
Wetted	<u>          </u>	<u>          </u>	<u>          </u>
Base	<u>          </u>	<u>          </u>	<u>          </u>

TABLE IV.  
PORT NUMBER LOCATION

<u>Port Number</u>	<u>Model Long. Sta.</u>	<u>X/l<sub>B</sub>*</u>
1	.2813	.0164
2	.3054	.0178
3	.3383	.0197
4	.3796	.0221
5	.4250	.0248
6	.471	.0275
7	.521	.0304
8	.611	.0356
9	.661	.0386
10	.711	.0415
11	.761	.0444
12	.841	.0491
13	1.001	.0584
14	1.161	.0677
15	1.321	.0771
16	1.459	.0851
17	1.597	.0932
18	1.813	.1058
19	2.029	.1184
20	2.245	.1310
21	2.869	.1674
22	3.169	.1849

$$^*l_B = 17.143$$

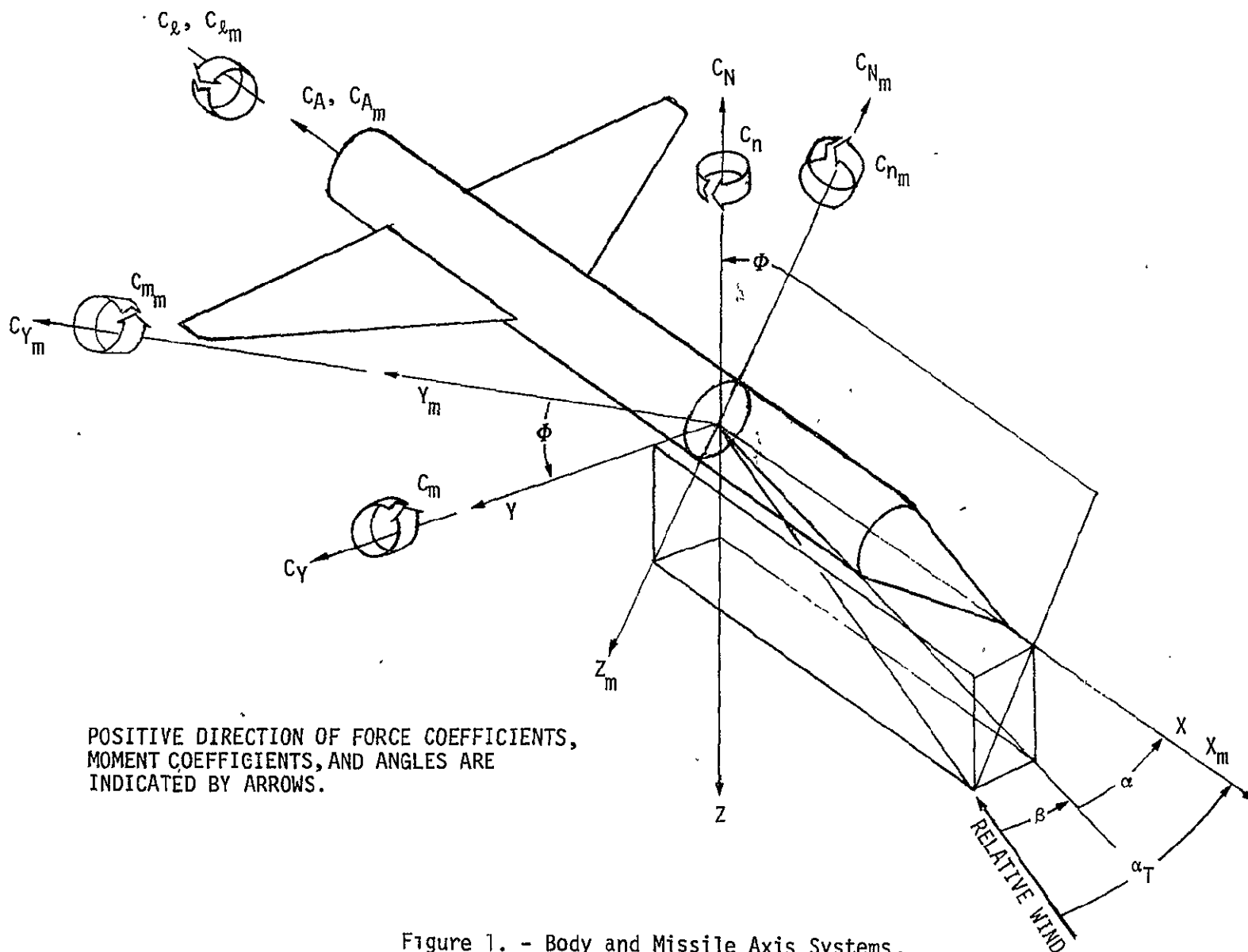


Figure 1. - Body and Missile Axis Systems.



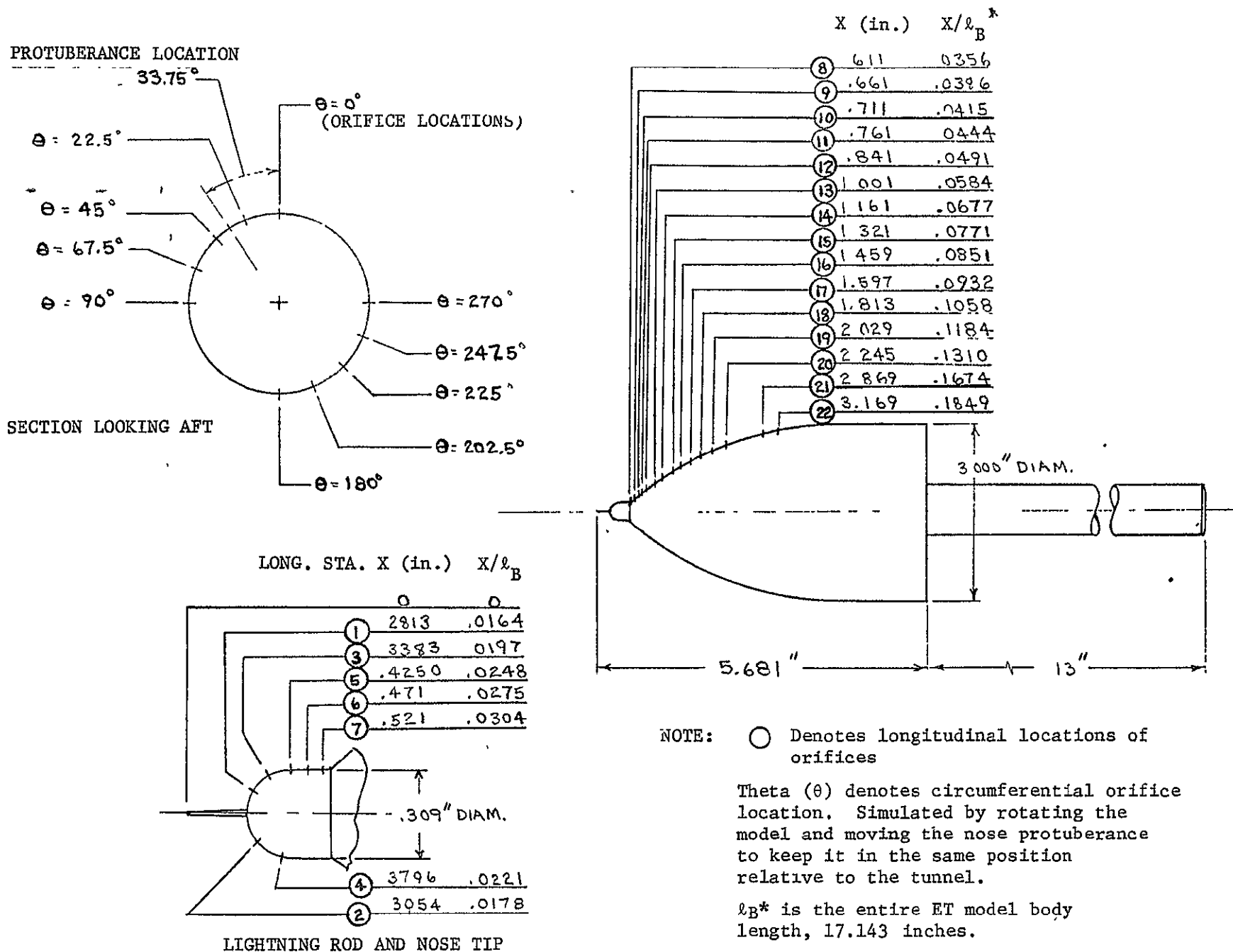
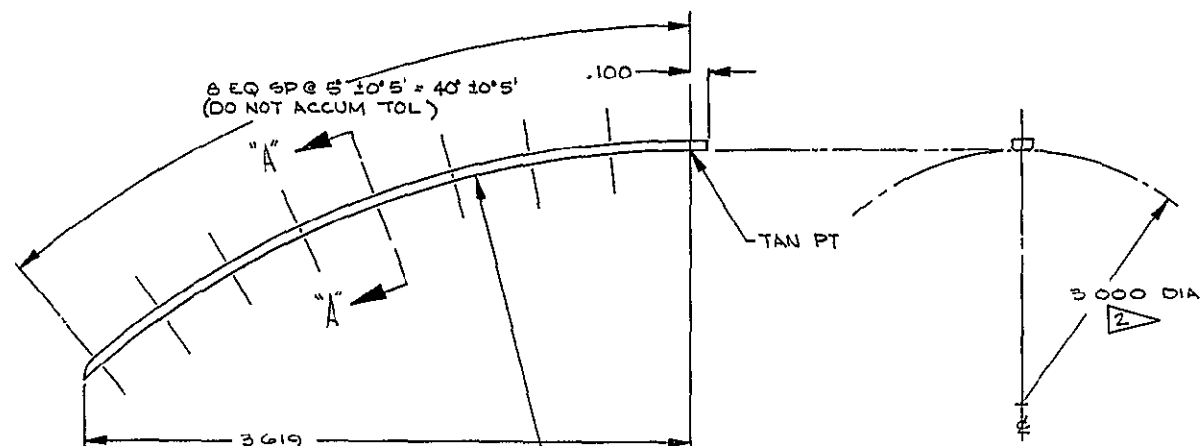
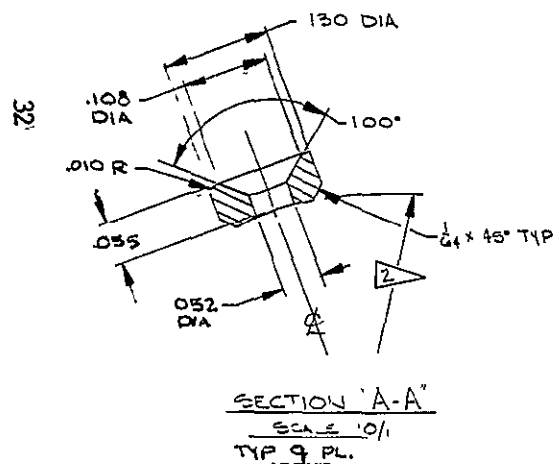


Figure 3. Orifice and Nose Protuberance Location.



ORIGINAL PAGE IS  
OF POOR QUALITY



5542 R

NOTE 2:

1 32

2 MACHINE TO MATCH SURFACE OF MODEL #470 (60M31379)

UNLESS OTHERWISE SPECIFIED		ORIGINAL DATE OF DRAWING 82-74		TUNNEL		GEORGE C MARSHALL SPACE FLIGHT CENTER NATIONAL AERONAUTICS AND SPACE ADMINISTRATION HUNTSVILLE, ALABAMA	
DIMENSIONS ARE IN INCHES		IN INCHES		BY E. R.		80M31694	
TOLERANCES ON		DECIMALS		ENGINEER		C	
SEE ENGINEERING RECORDS		± .04		ENGINEER		80M31694	
MATERIAL		CRES. TYPE OPT		SUBMITTED		80M31694	
NEXT ASSY		USED ON		APPROVED		80M31694	
APPLICATION		FINAL PROTECTIVE FINISH		DIRECTOR		80M31694	
				SCALE 2/1 & NOTED		80M31694	

Figure 4. Nose Protuberance, LO<sub>2</sub> Feed Line and LO<sub>2</sub> Recirculation Line Combined.

ORIGINAL PAGE IS  
OF POOR QUALITY

33

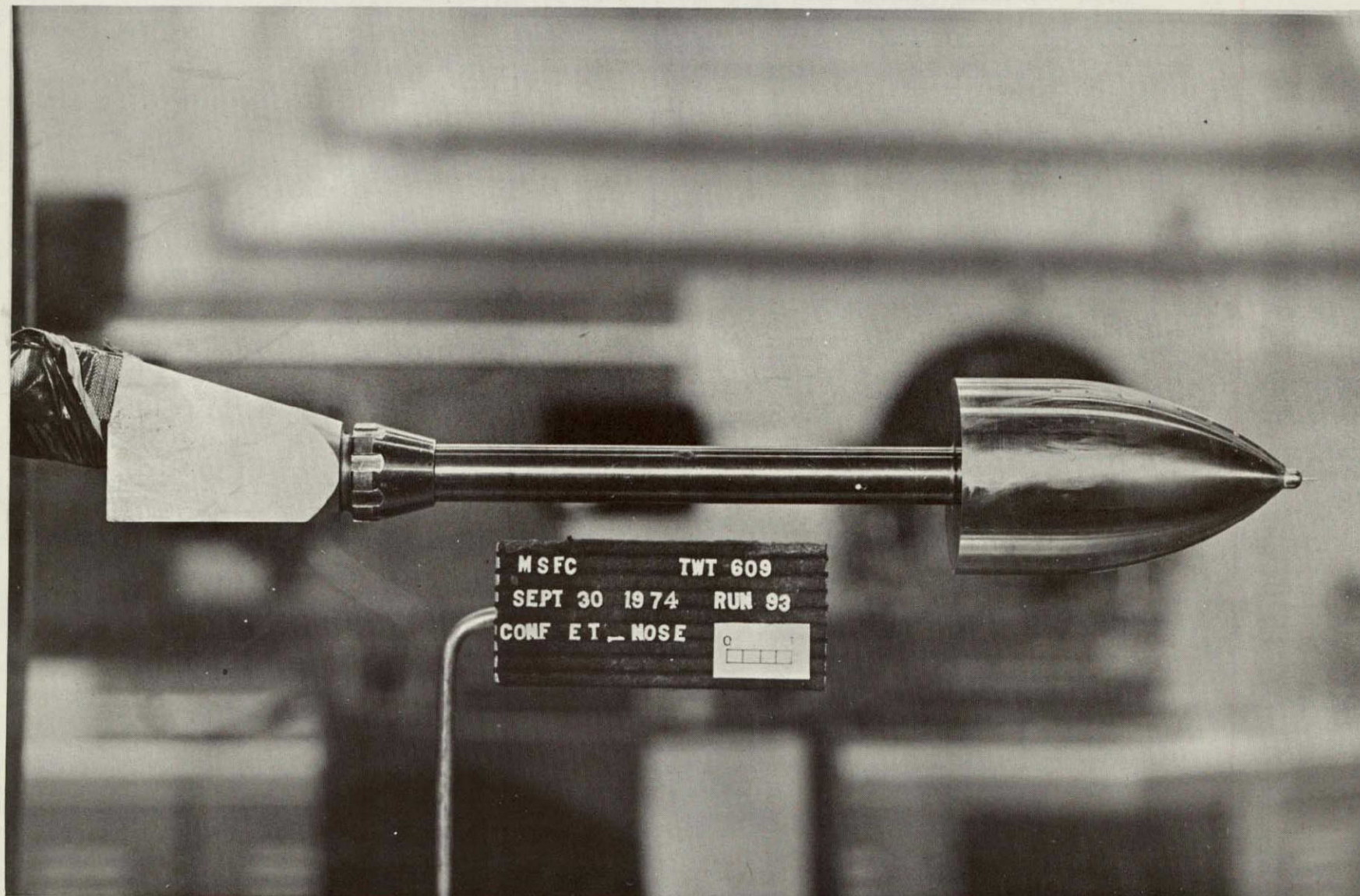


Figure 5. Installation Photograph of ET Nose with Lightning Rod (Nose Spike).



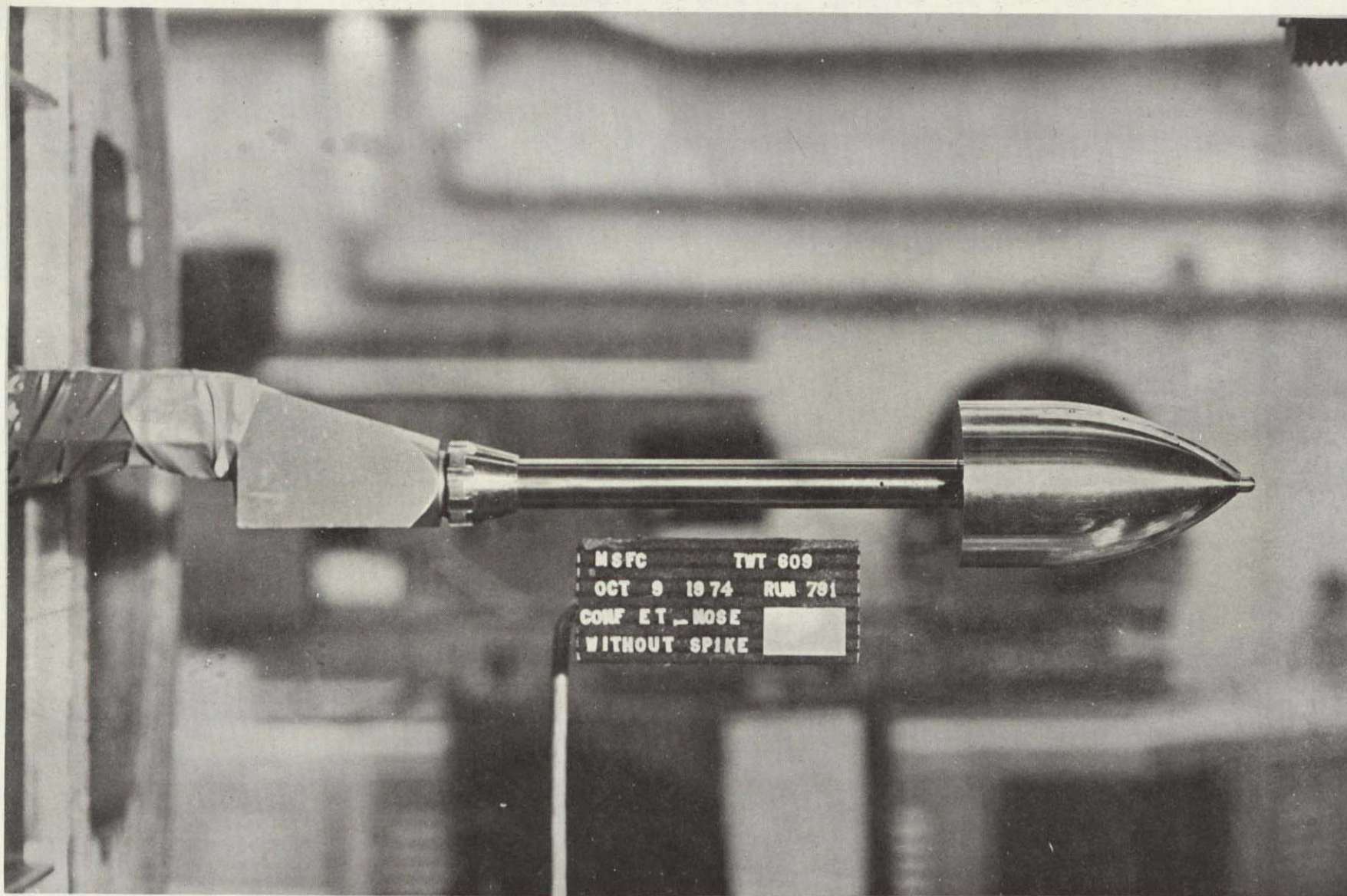


Figure 6. Installation Photograph of ET Nose without Lightning Rod.

ORIGINAL PAGE IS  
OF POOR QUALITY

35

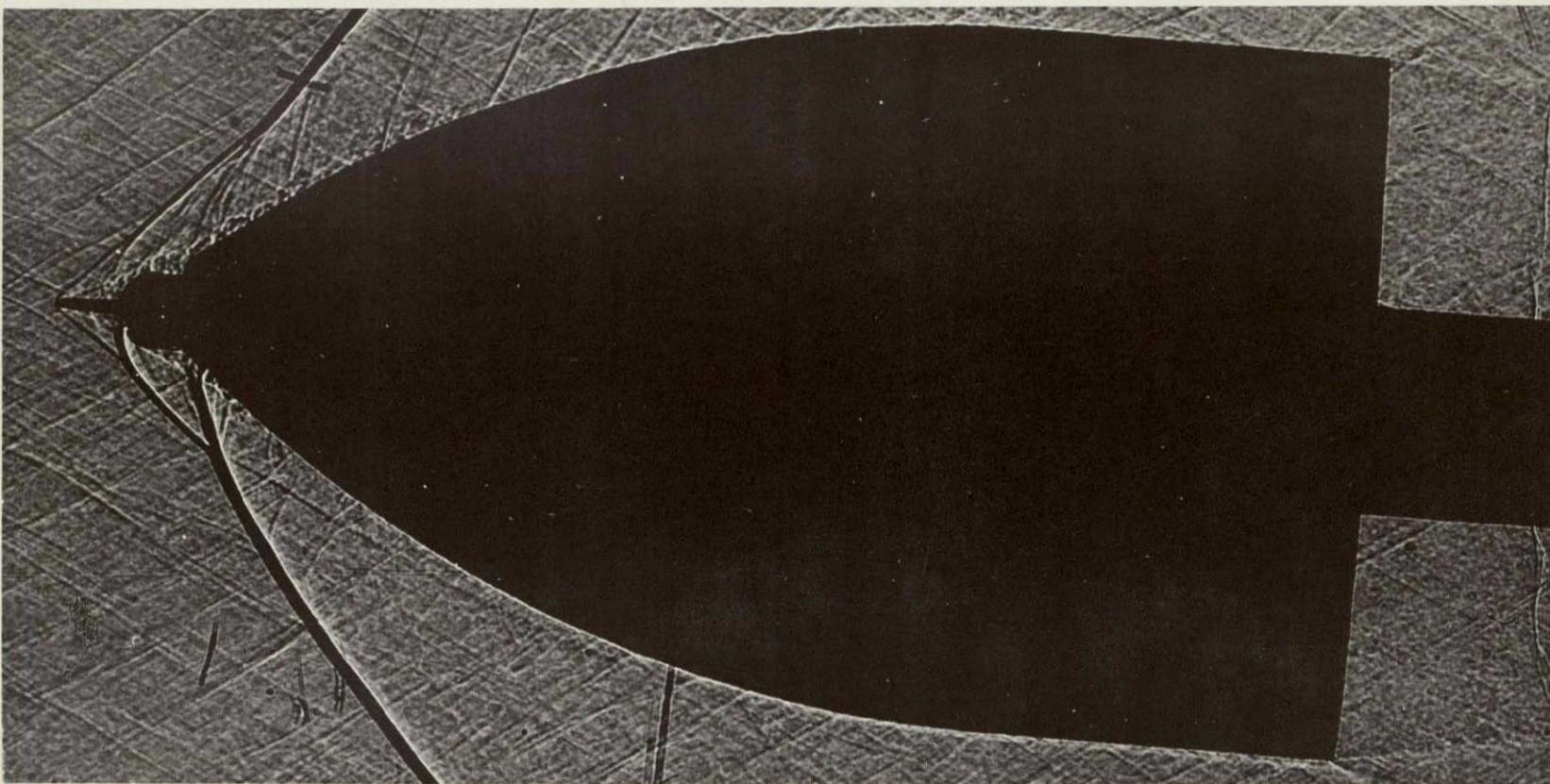


Figure 7. Flow Visualization Photograph of Nose at  $M = 1.96$  and  $\alpha = 5^\circ$  (with Lightning Rod) .



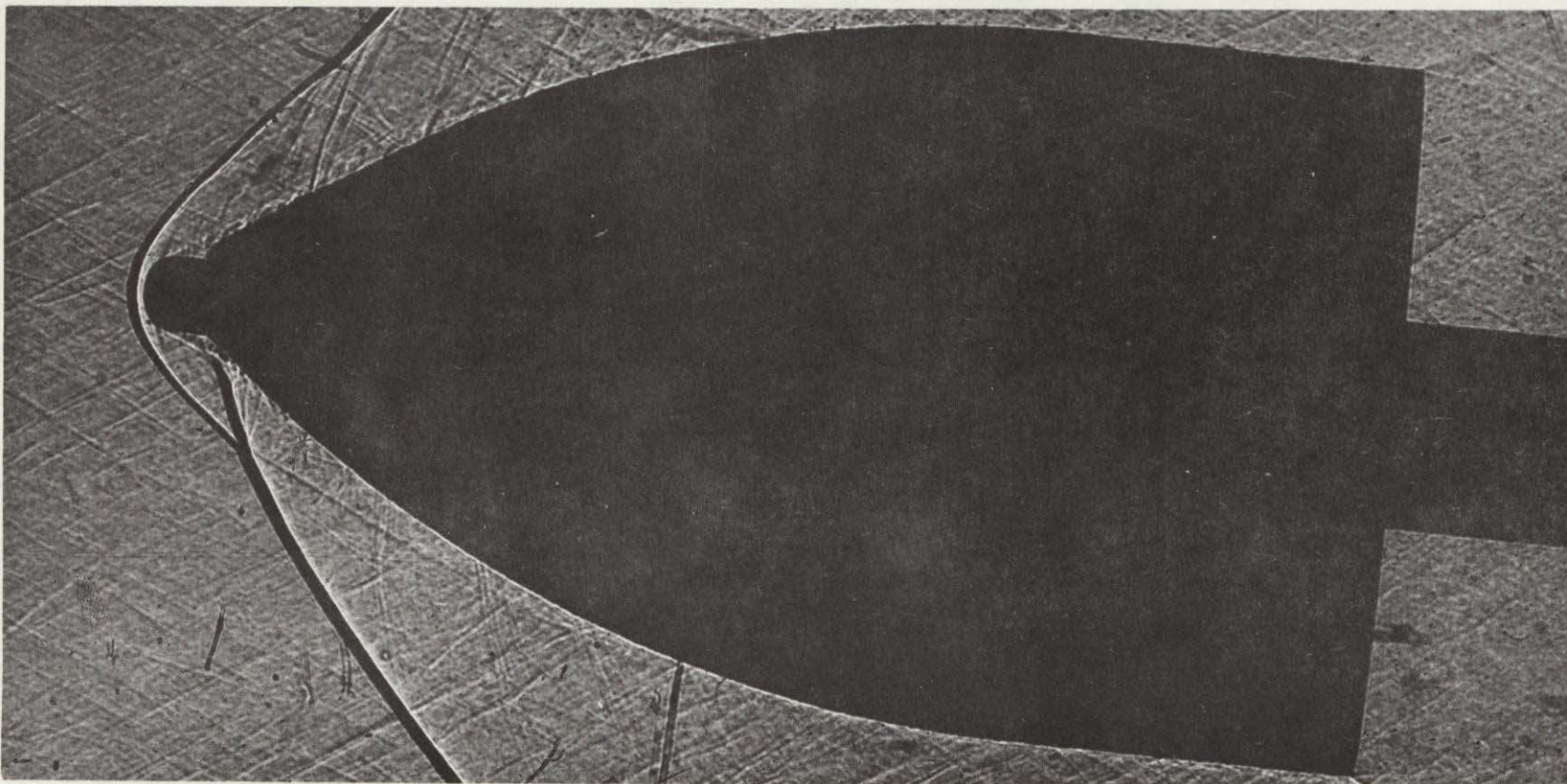


Figure 8. Flow Visualization Photograph of Nose at  $M = 1.96$  and  $\alpha = 5^\circ$  (without Lightning Rod) .

DATA FIGURES

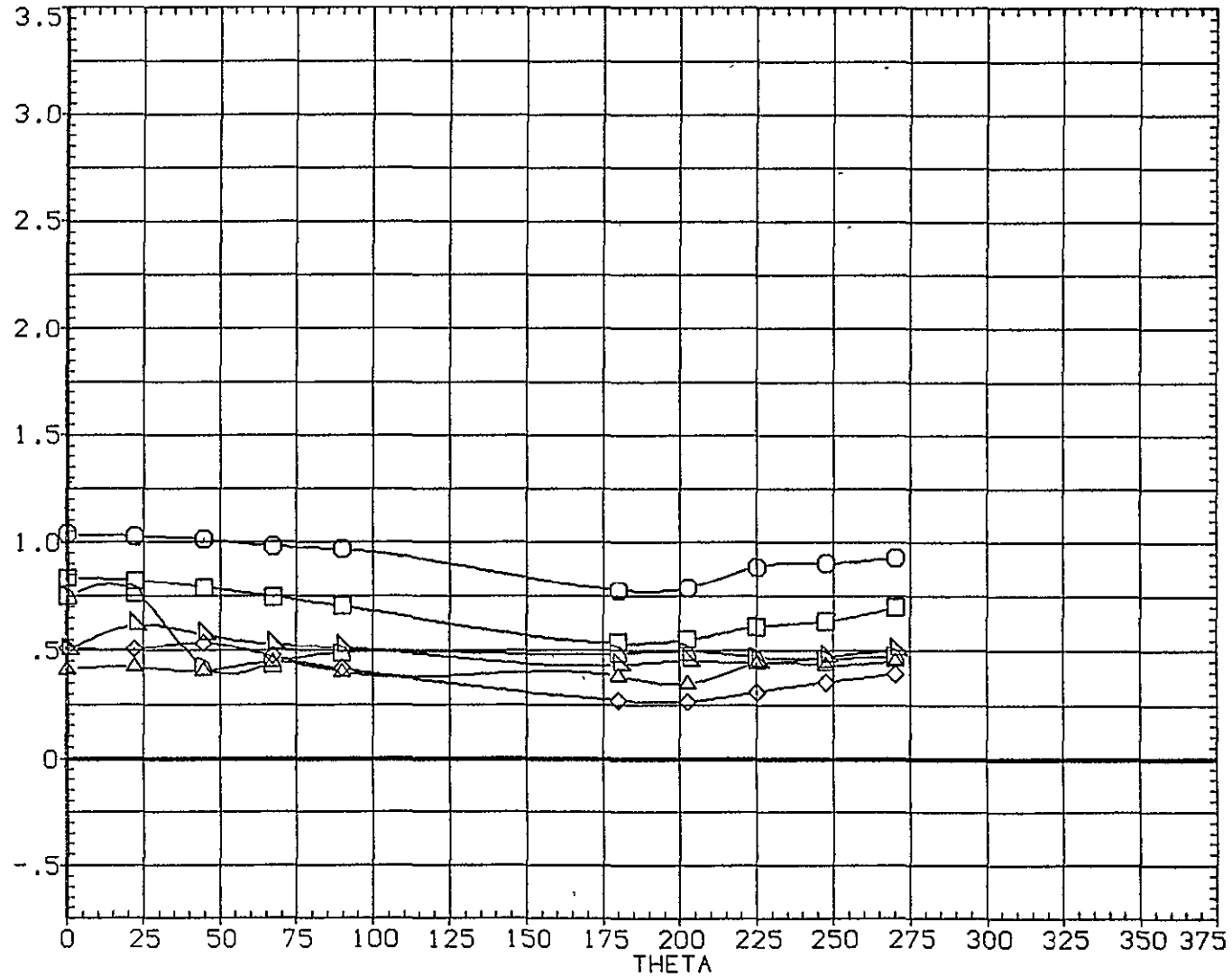
(See VOLUME 2 for TABULATED SOURCE DATA)

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G001)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-5.040	.599			
□	.018					
◇	.020					
△	.022					
▽	.025					
◊	.028					

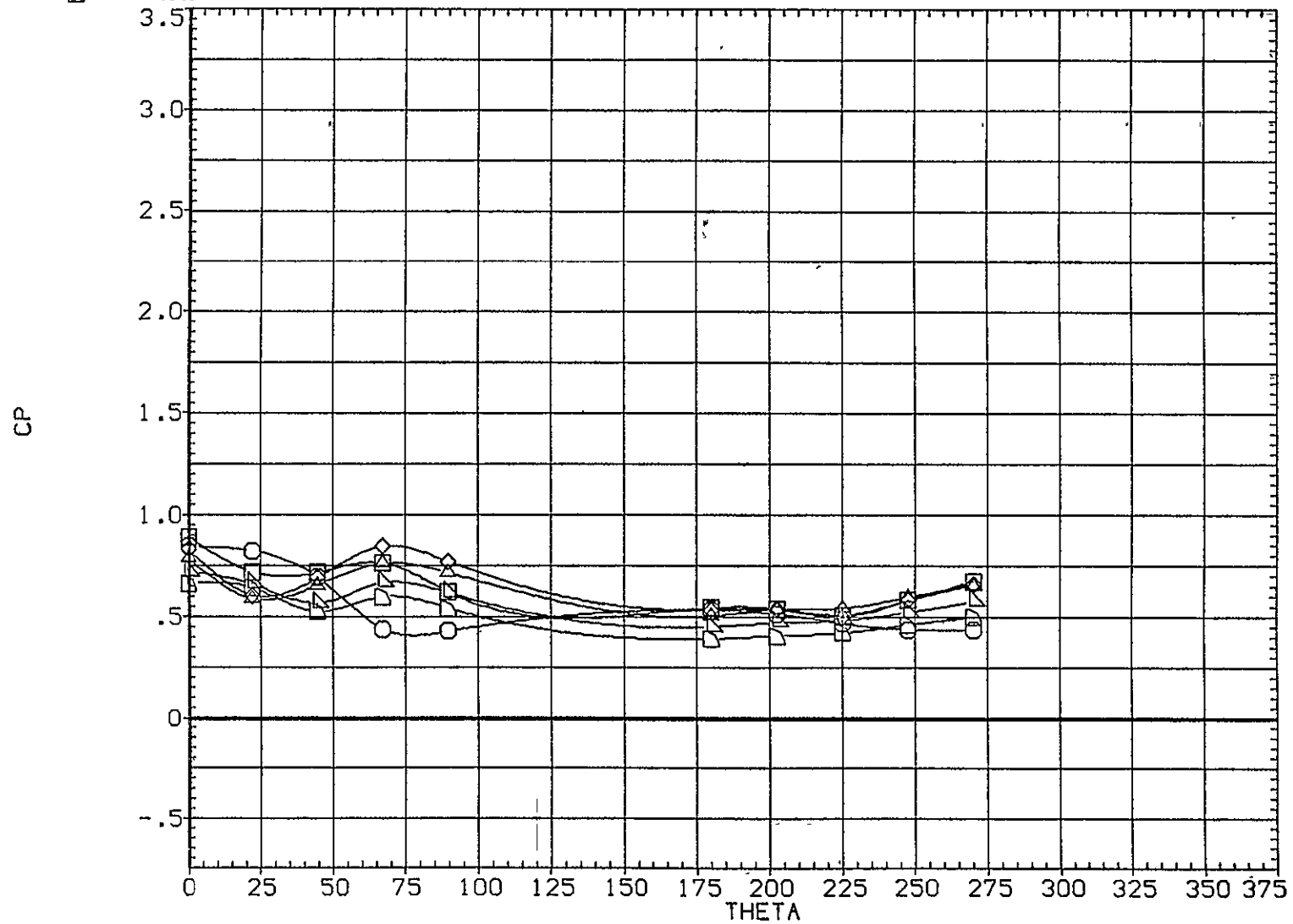
CP



EFFECT OF RADIAL LOCATION ON PRESSURE

PRECEDING PAGE BLANK NOT FILMED

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.030	-5.040	.599		.000		.000
□	.036						
◇	.039						
△	.041						
▽	.044						
◁	.049						



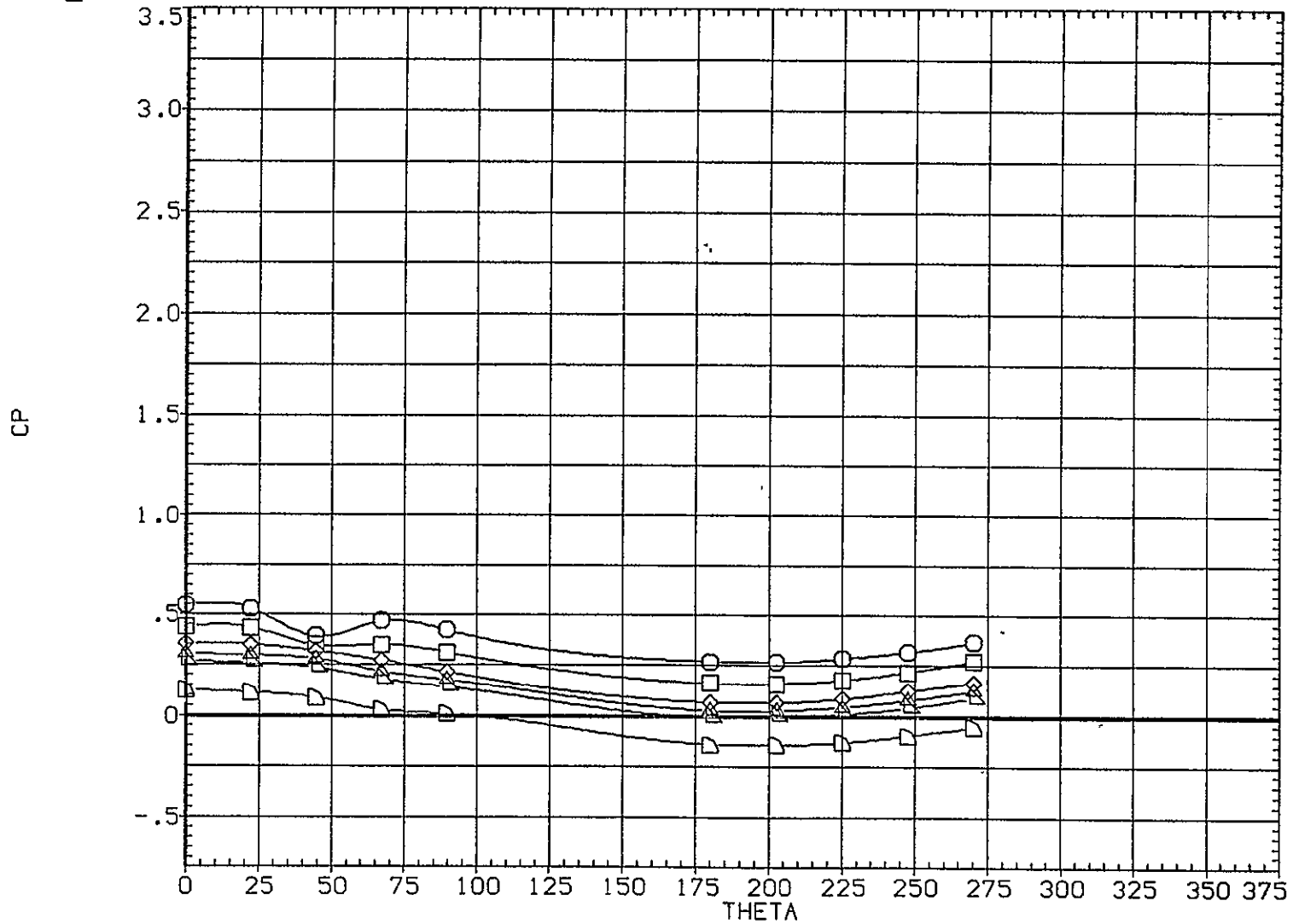
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

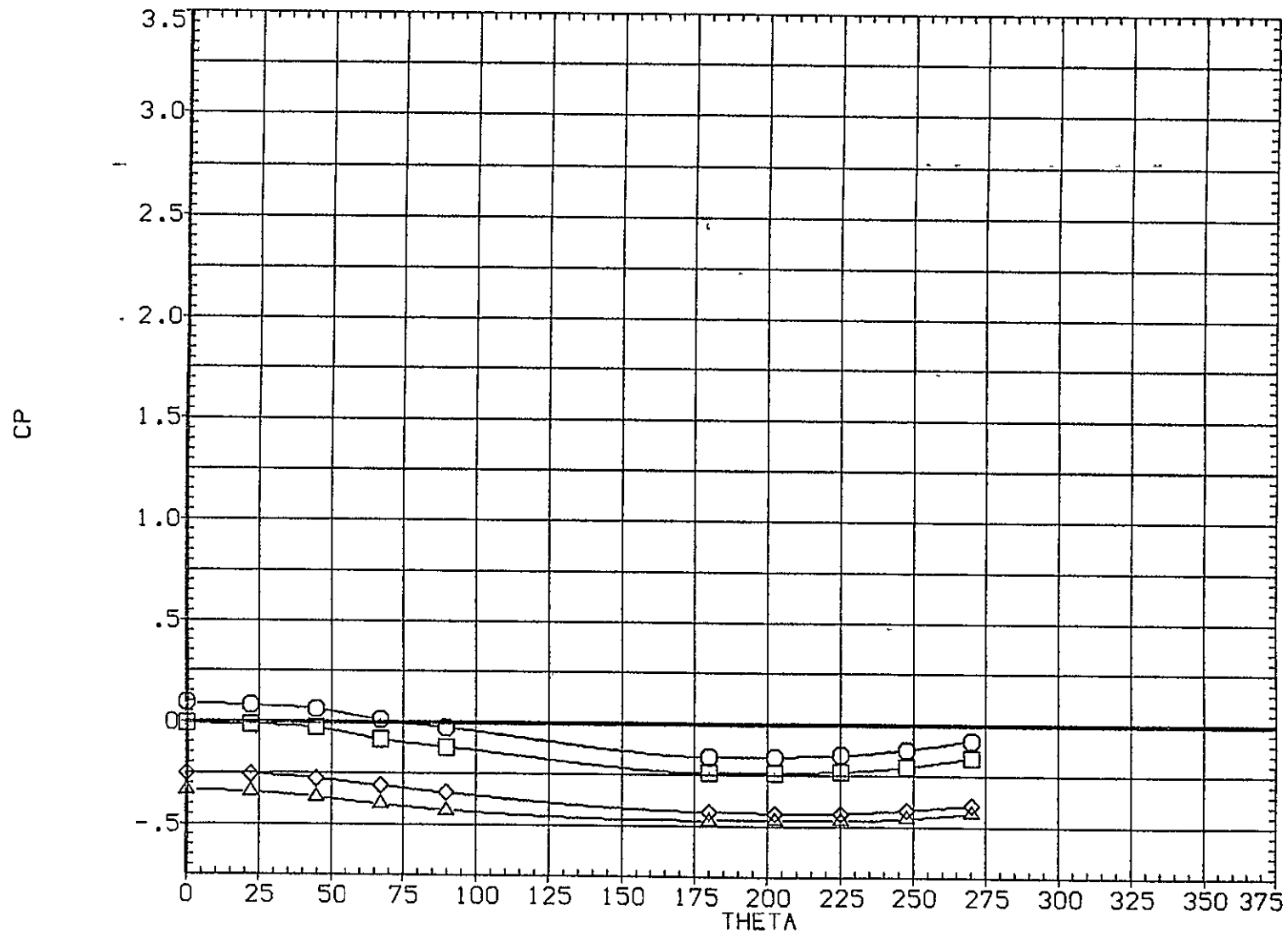
(B16001)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
	.058	-5.040	.599		.000	PHI	.000
○	.068						
◇	.077						
△	.085						
▽	.093						
□	.106						



EFFECT OF RADIAL LOCATION ON PRESSURE

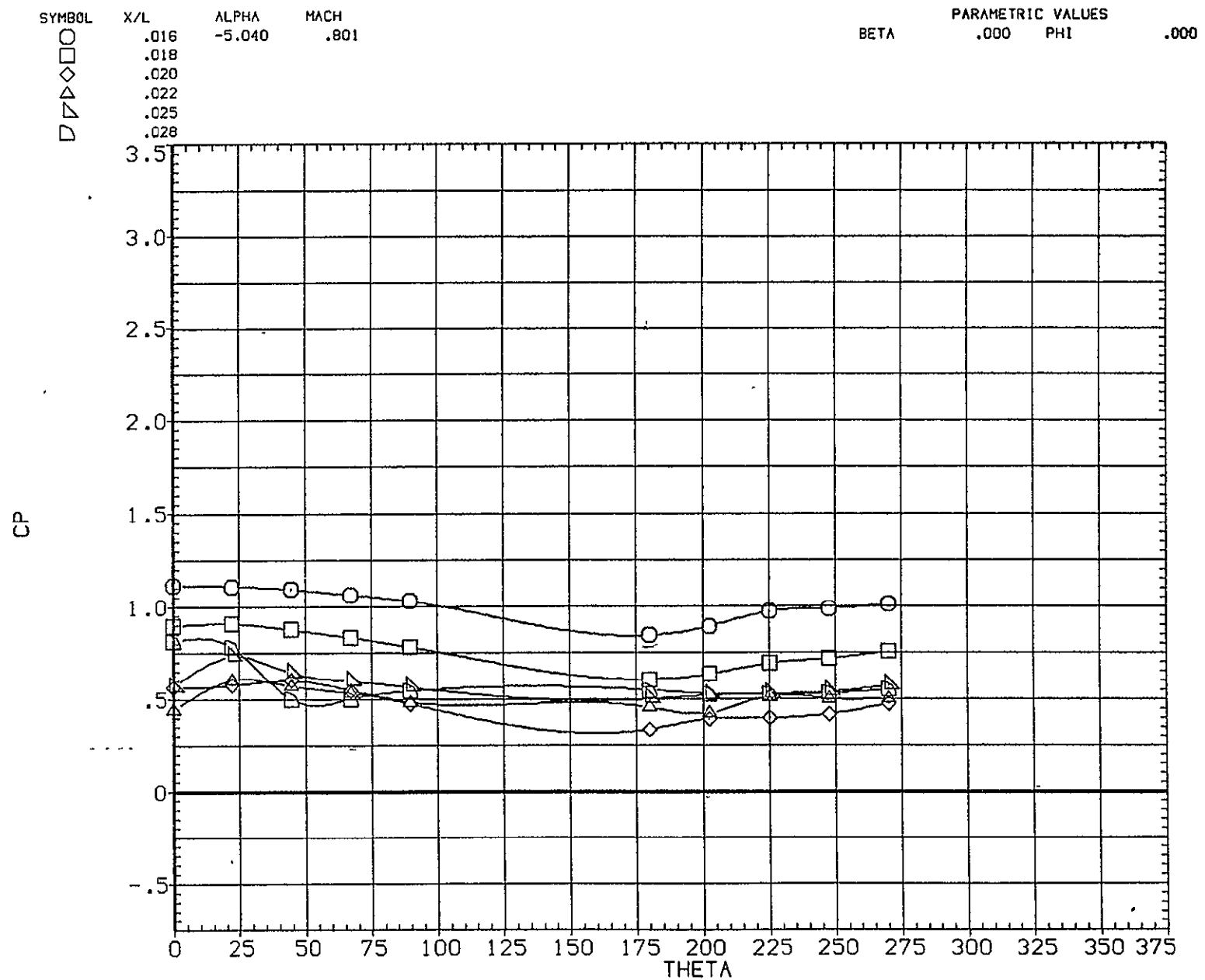
SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	-5.040	.599		.000		.000
□	.131						
◇	.167						
△	.185						



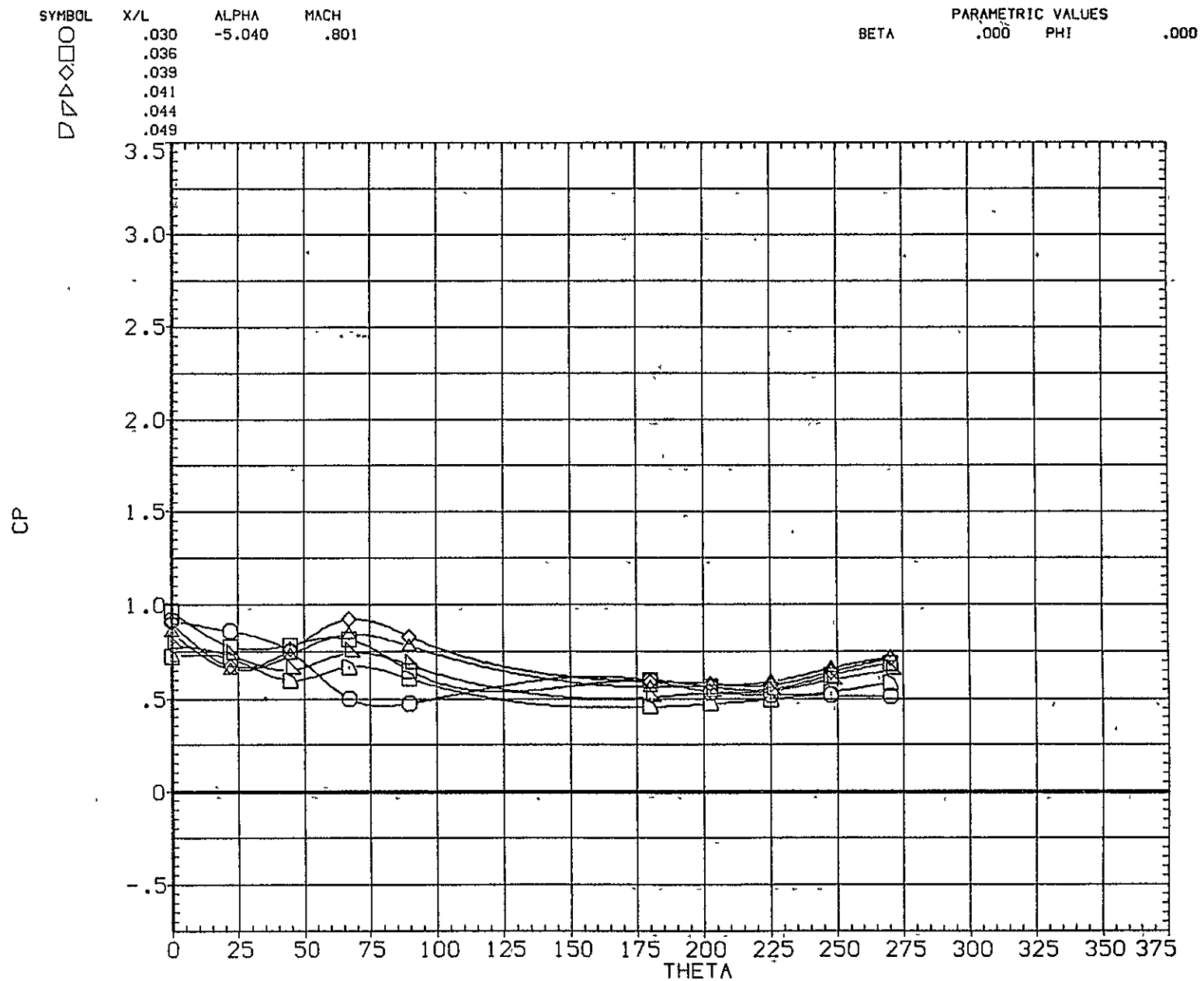
EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G001)



EFFECT OF RADIAL LOCATION ON PRESSURE

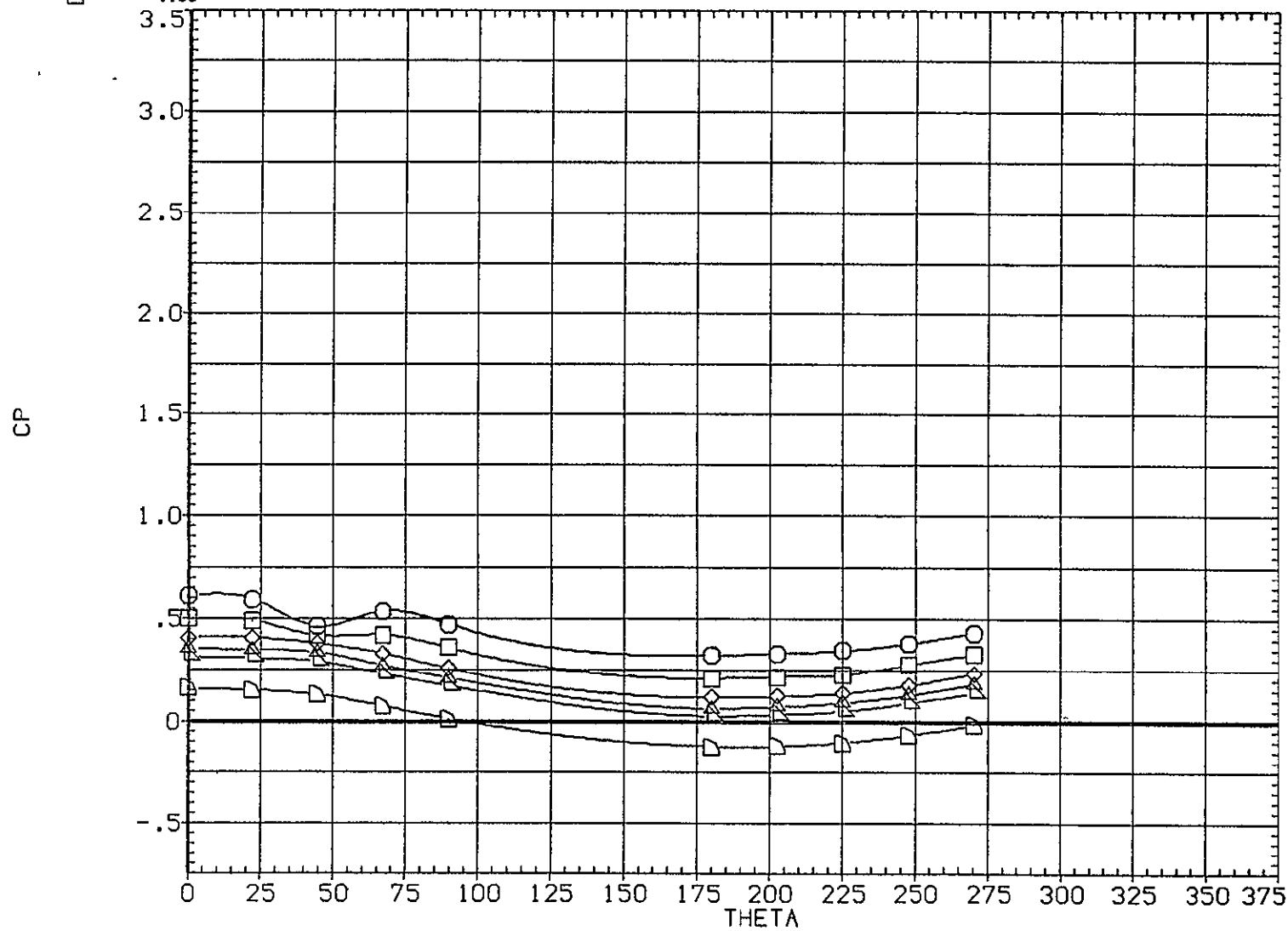


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

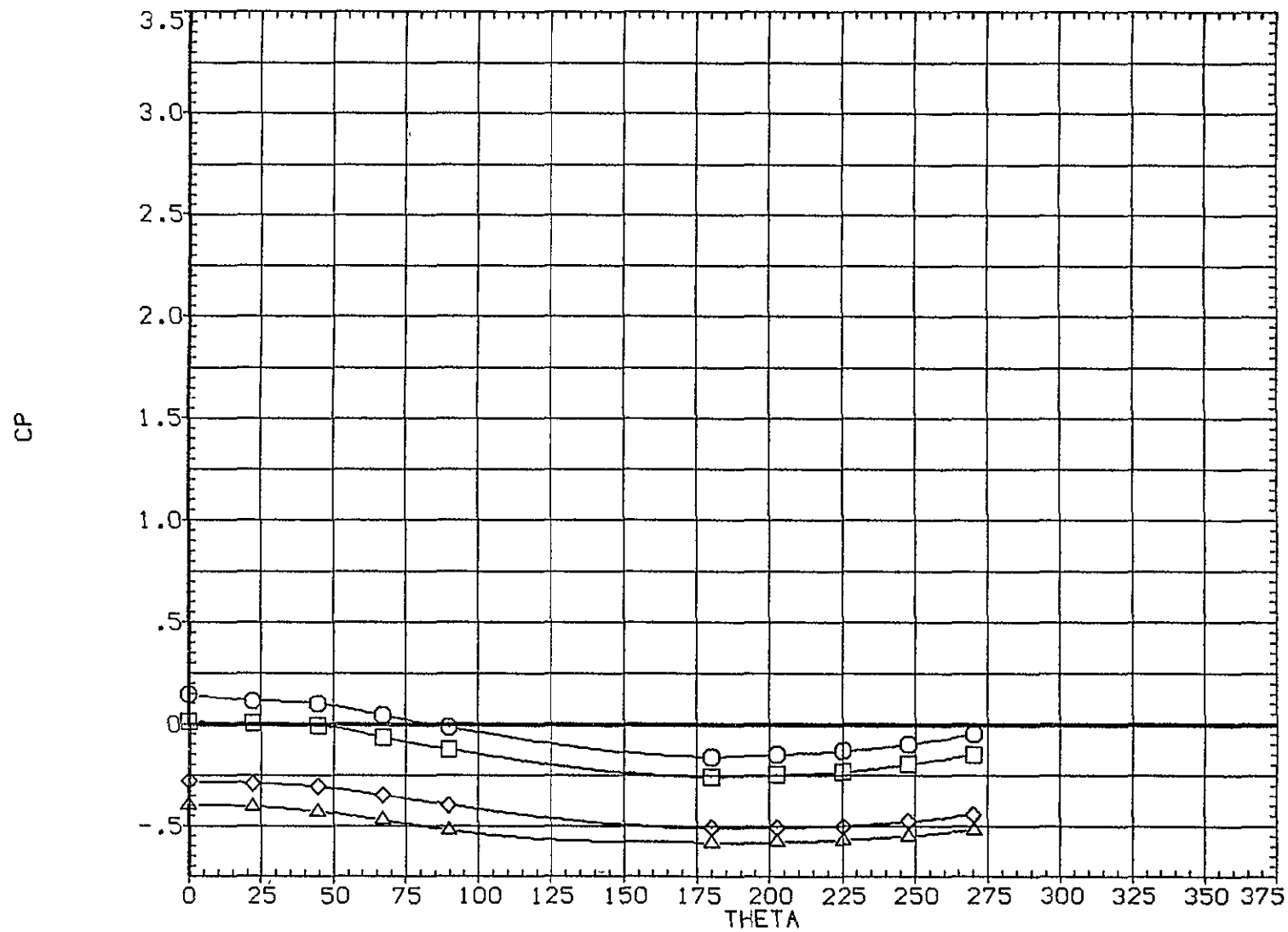
(B1G001)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-5.040	.801			
□	.068				.000	.000
◇	.077					
△	.085					
▽	.093					
▽	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	-5.040	.801		.000		.000
□	.131						
◇	.167						
△	.185						

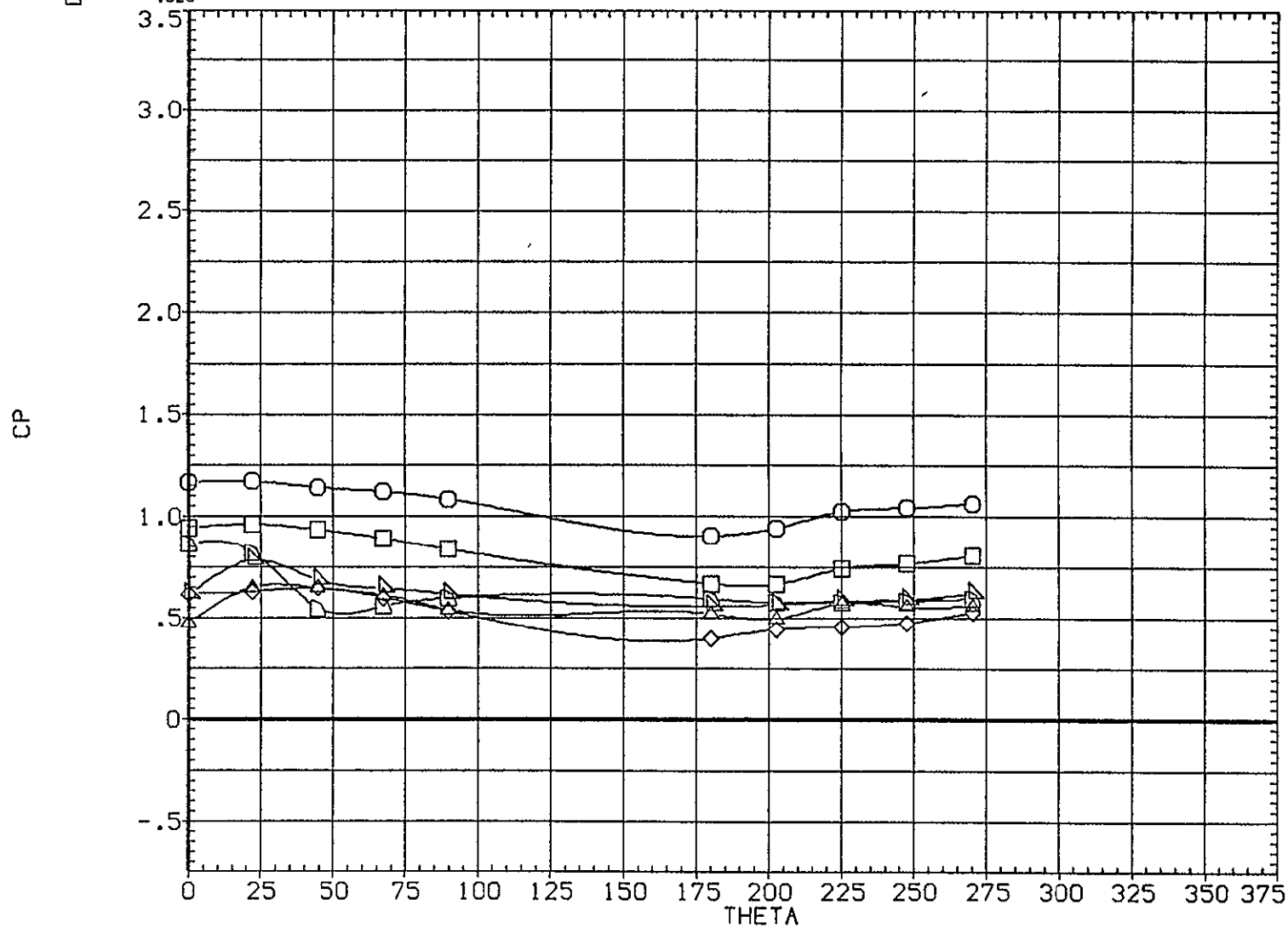


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

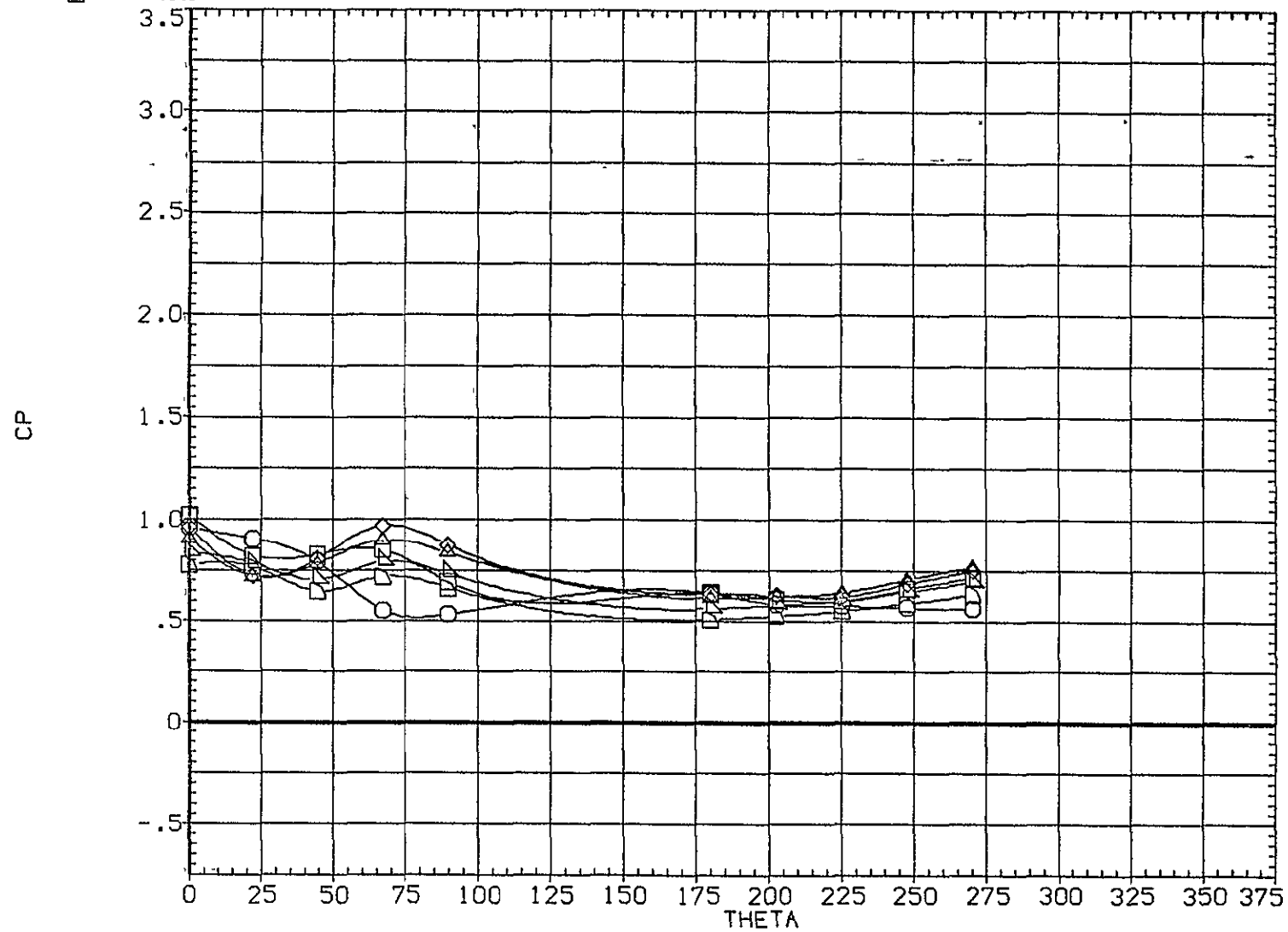
(B16001)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-5.040	.905			
□	.018					
◇	.020					
△	.022					
▽	.025					
◊	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	-5.040	.905	.000		.000
□	.036					
◇	.039					
△	.041					
▽	.044					
◻	.049					

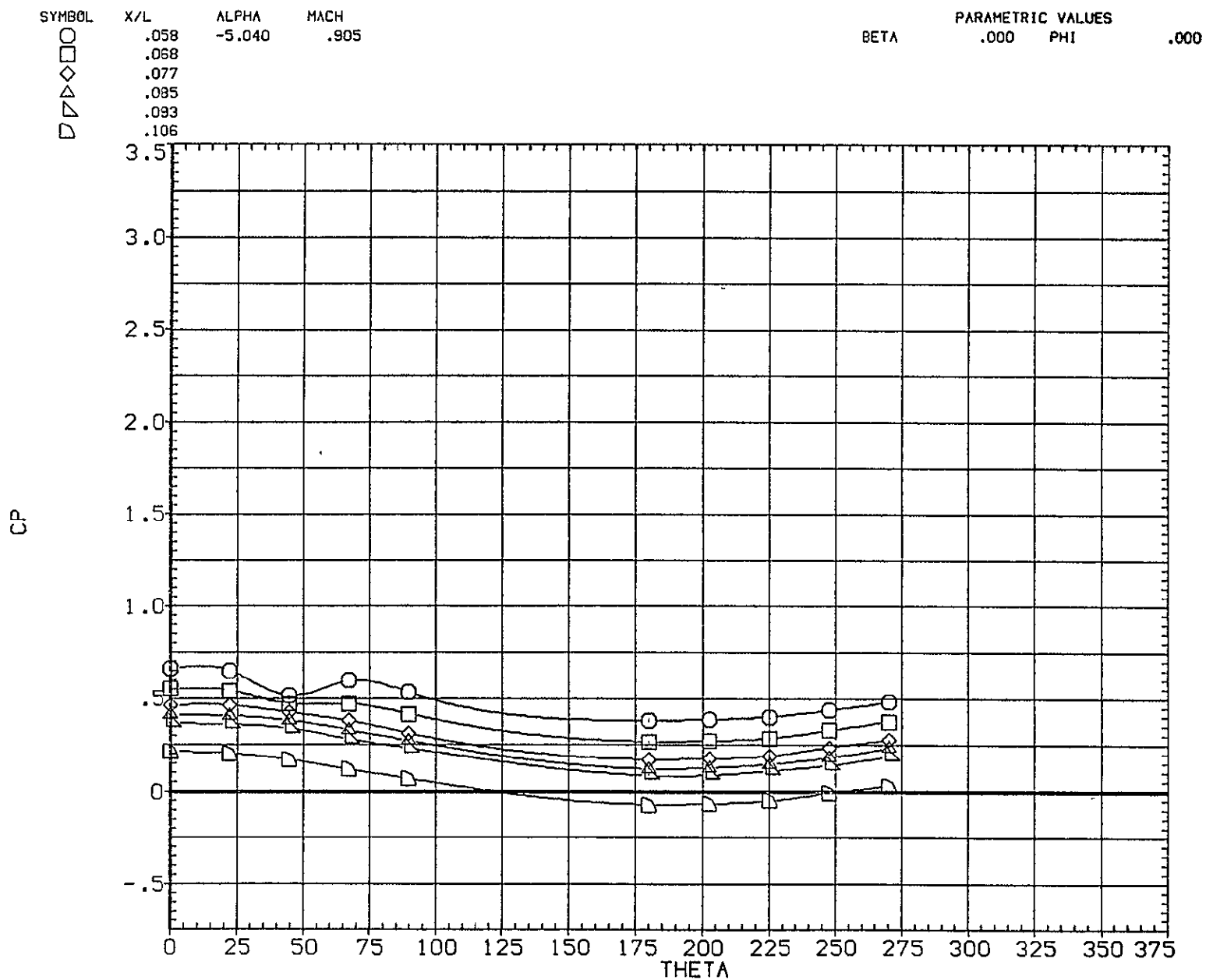


EFFECT OF RADIAL LOCATION ON PRESSURE



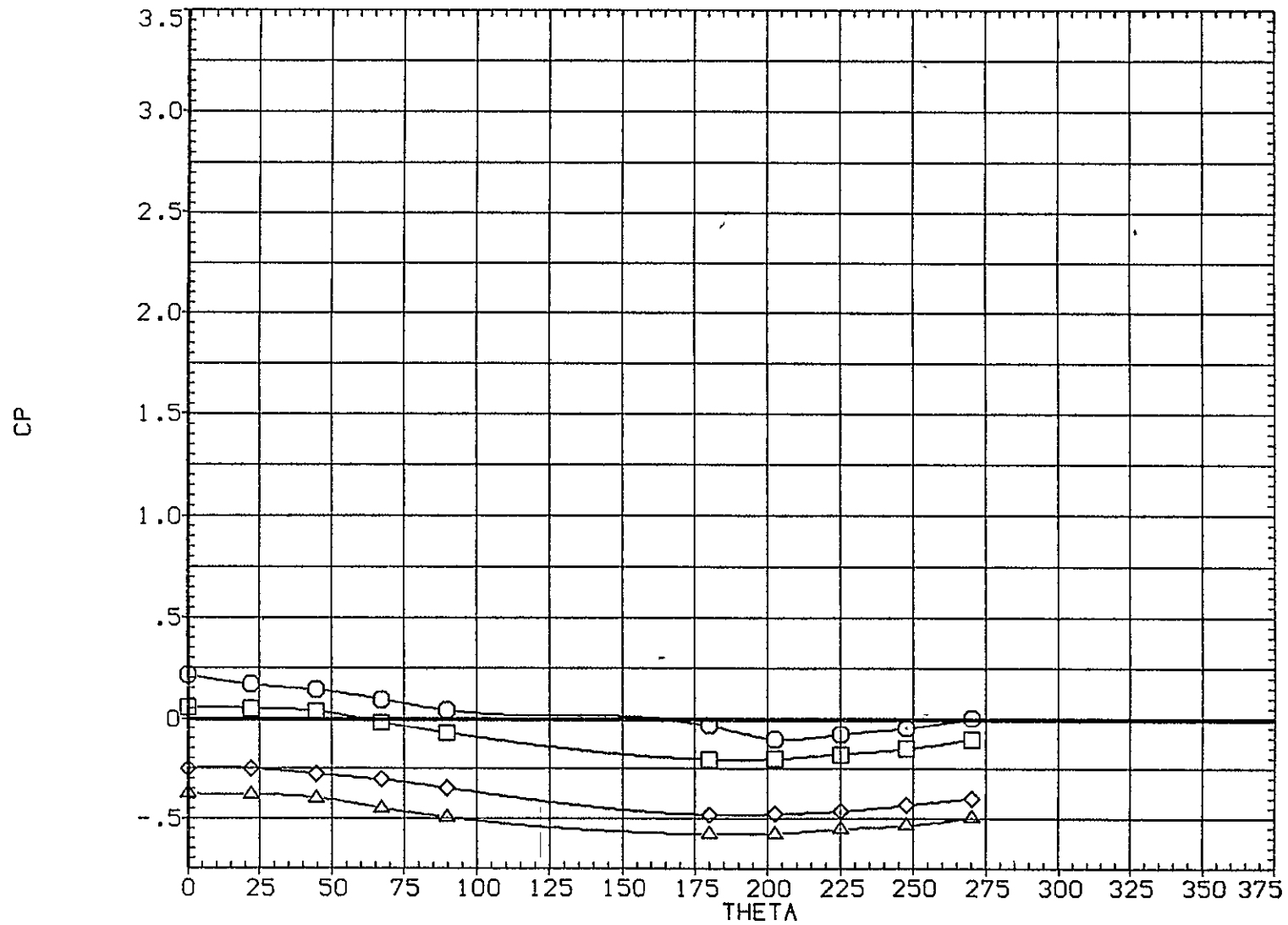
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G001)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	-5.040	.905			
□	.131				.000	.000
◇	.167					
△	.185					

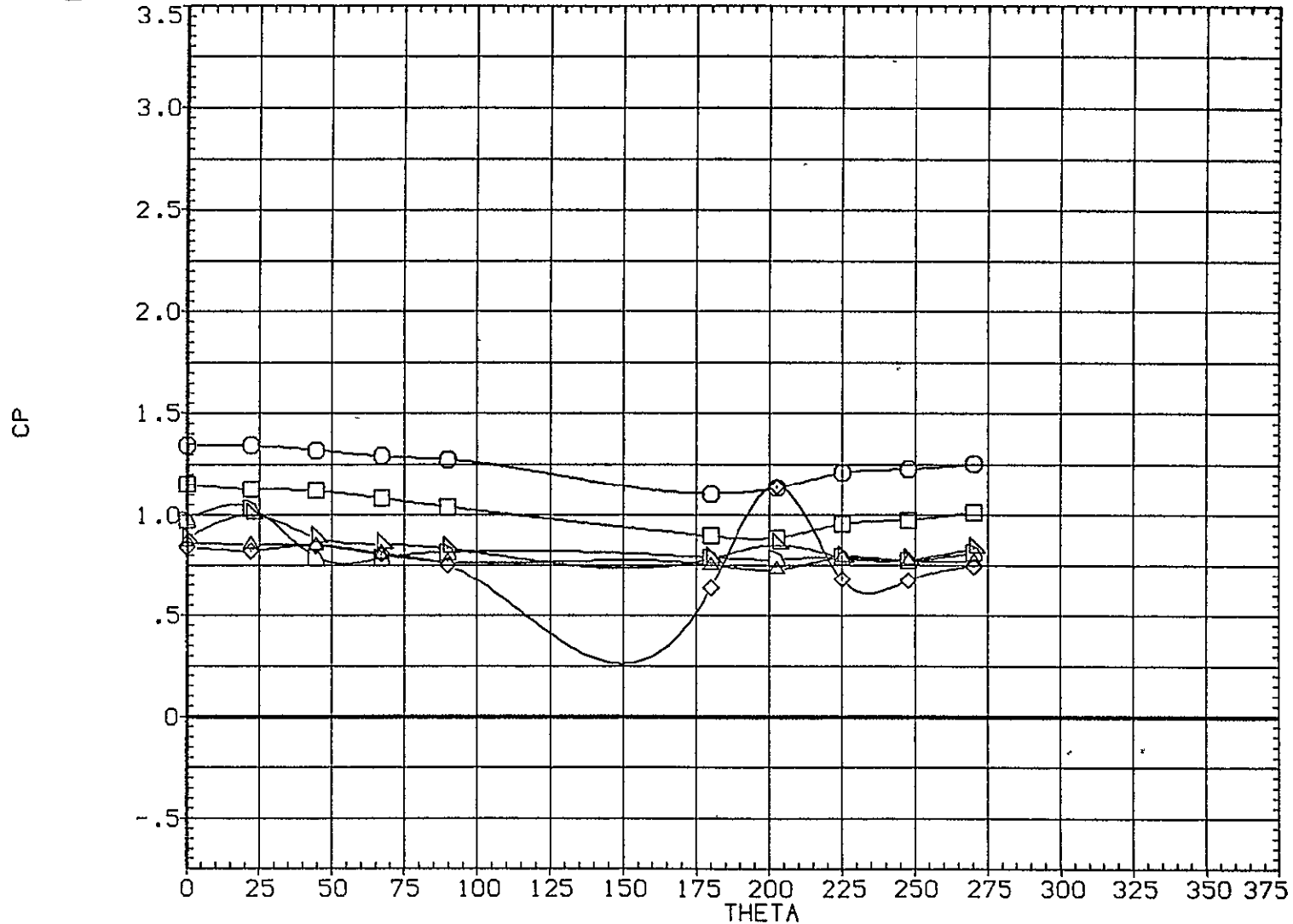


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

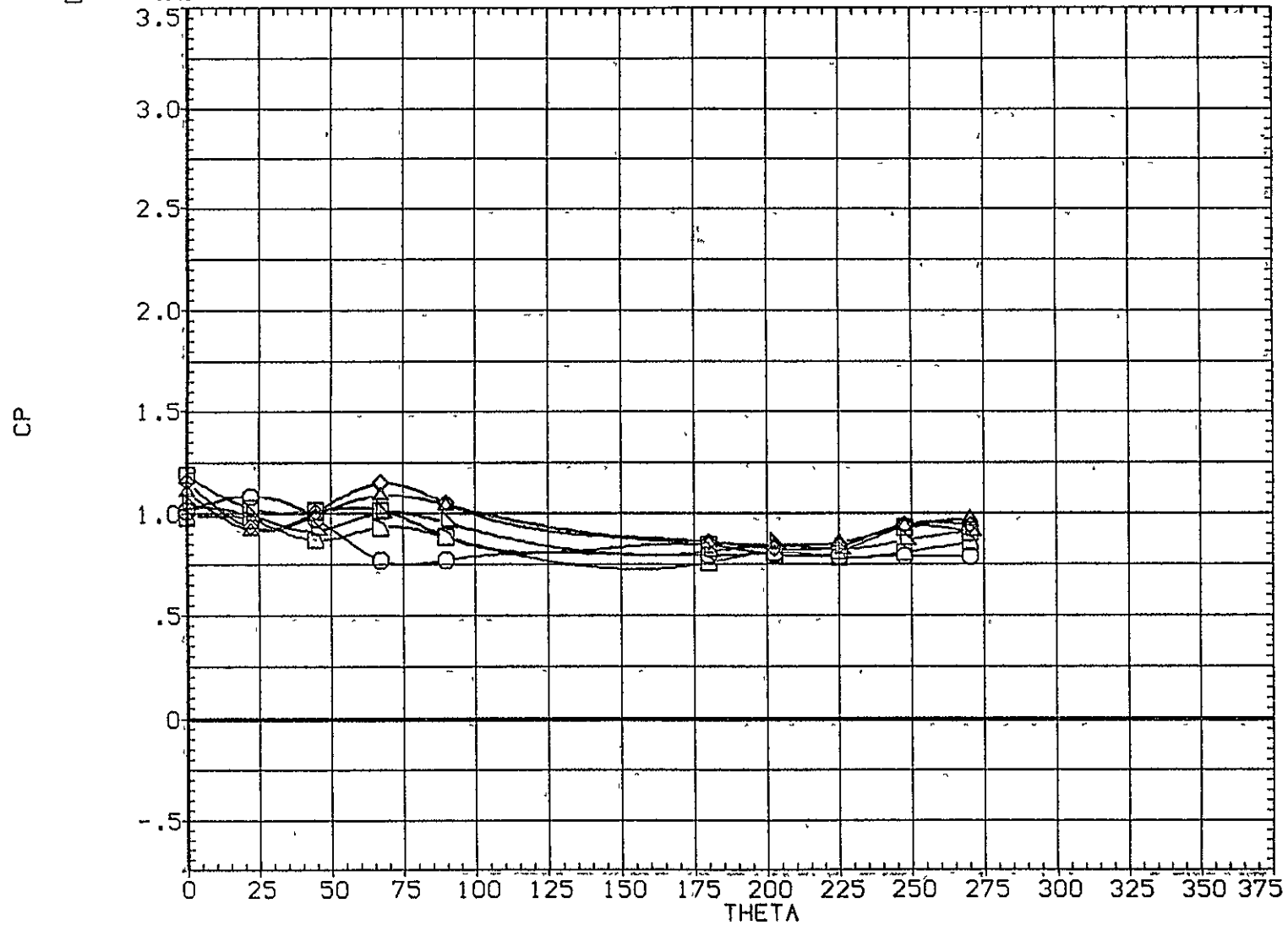
(B1G001)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-5.040	1.203			
□	.018					
◇	.020					
△	.022					
▽	.025					
◇	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	-5.040	1.203	.000		.000
□	.036					
◇	.039					
△	.041					
▽	.044					
◊	.049					

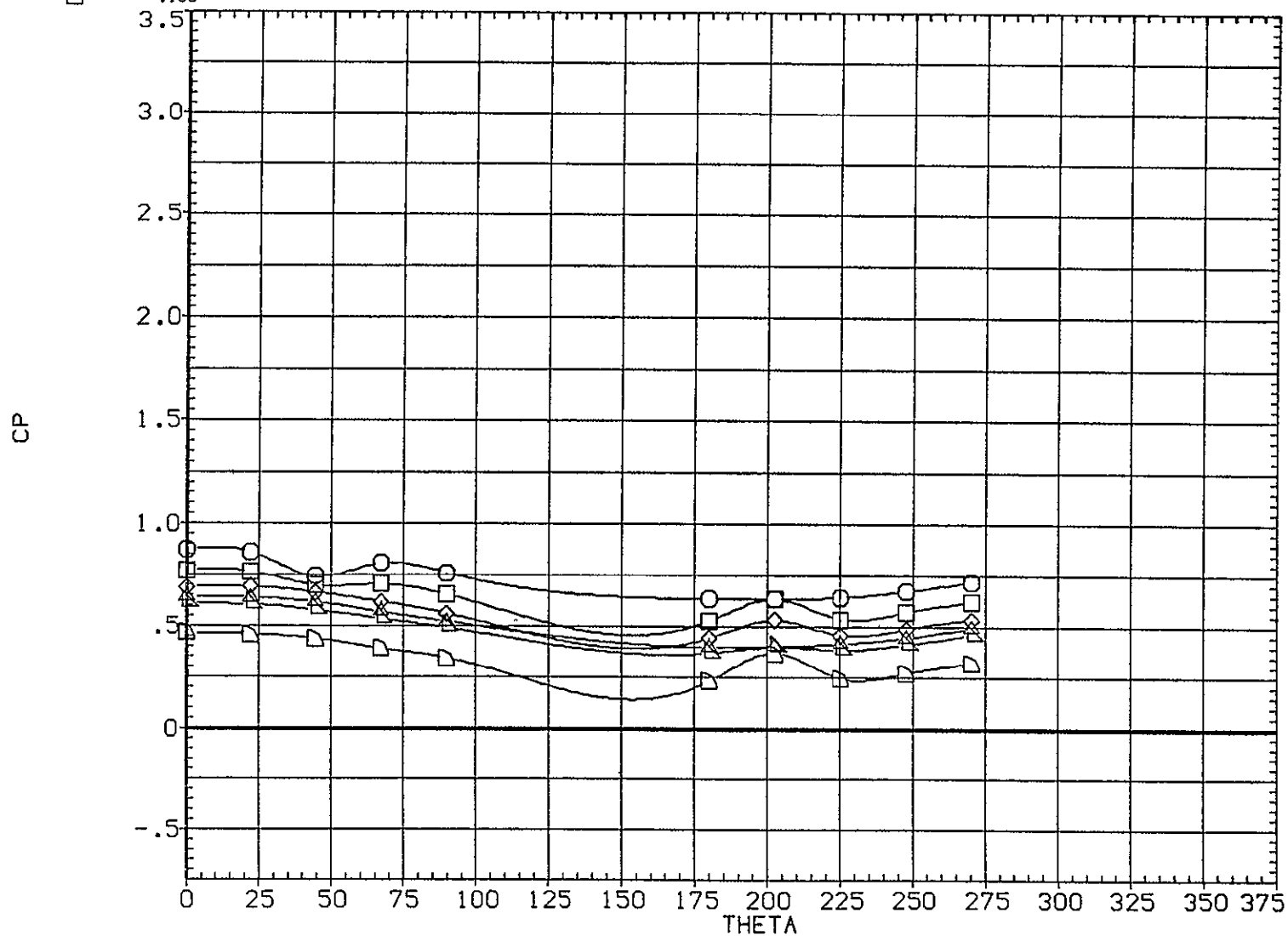


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G001)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-5.040	1.203			
□	.068					
◇	.077					
△	.085					
▽	.093					
◻	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL

○  
□  
◇  
△

X/L

ALPHA

MACH

.118

-5.040

1.203

.131

.167

.185

BETA

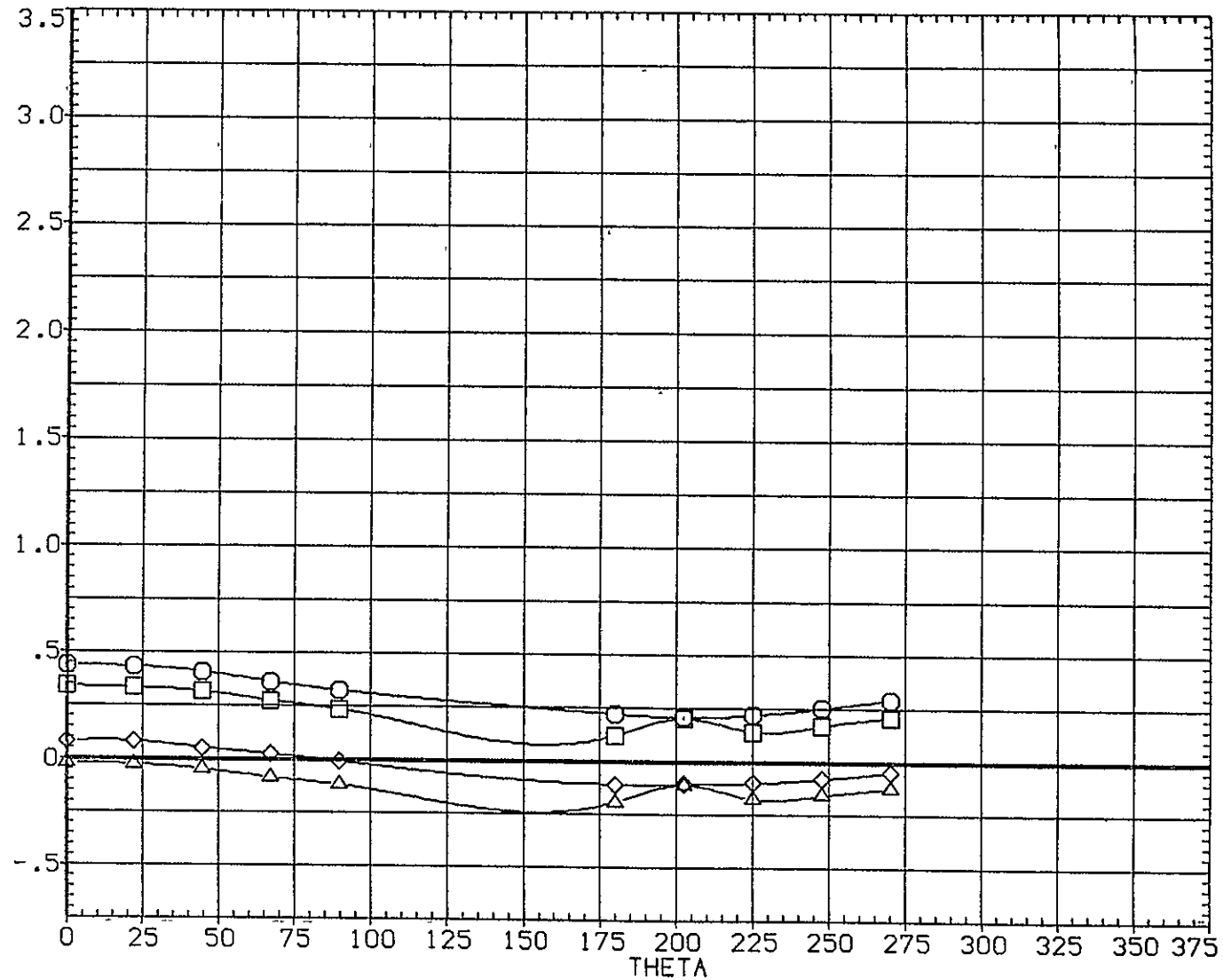
PARAMETRIC VALUES

.000

PHI

.000

CP

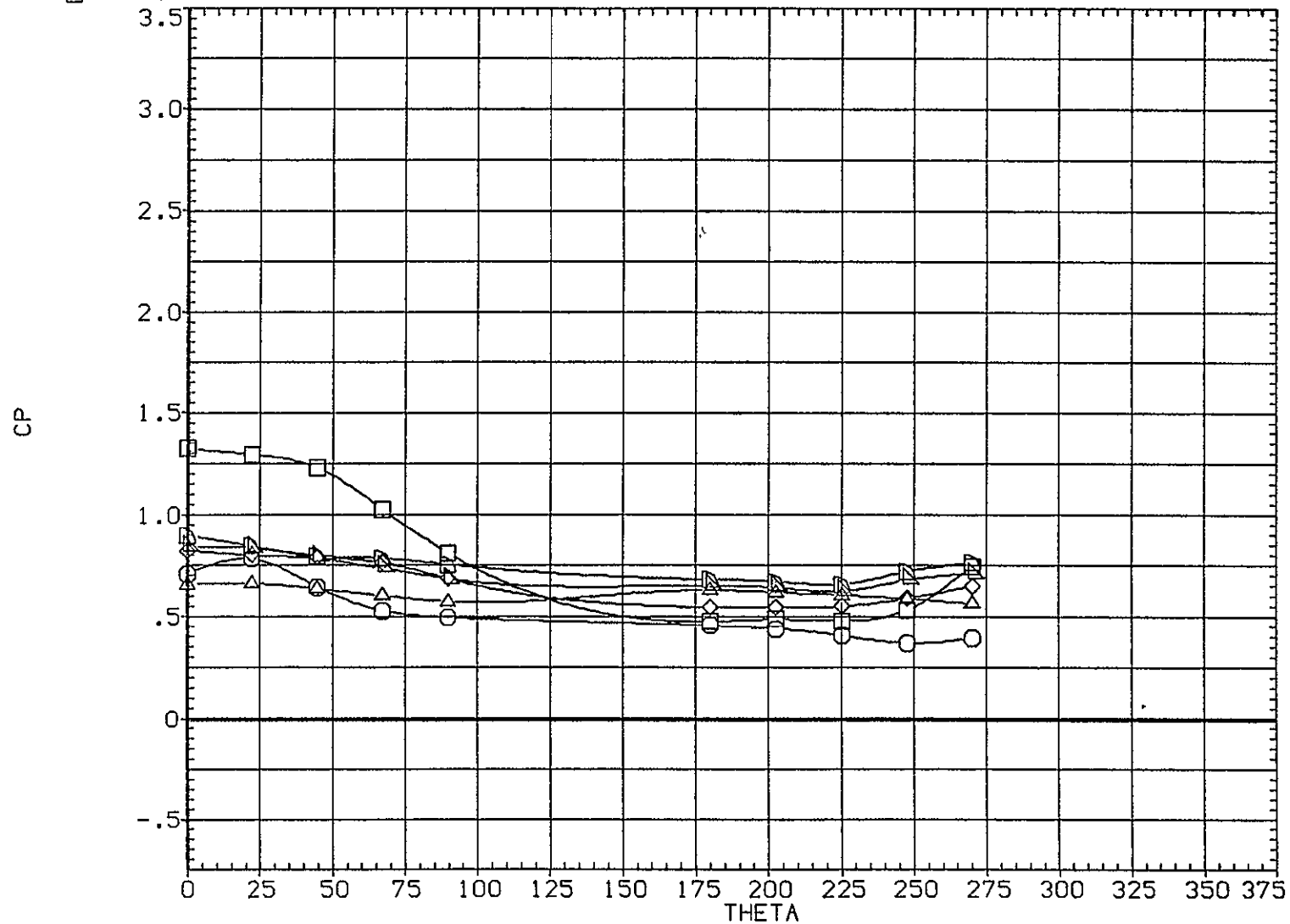


EFFECT OF RADIAL LOCATION ON PRESSURE

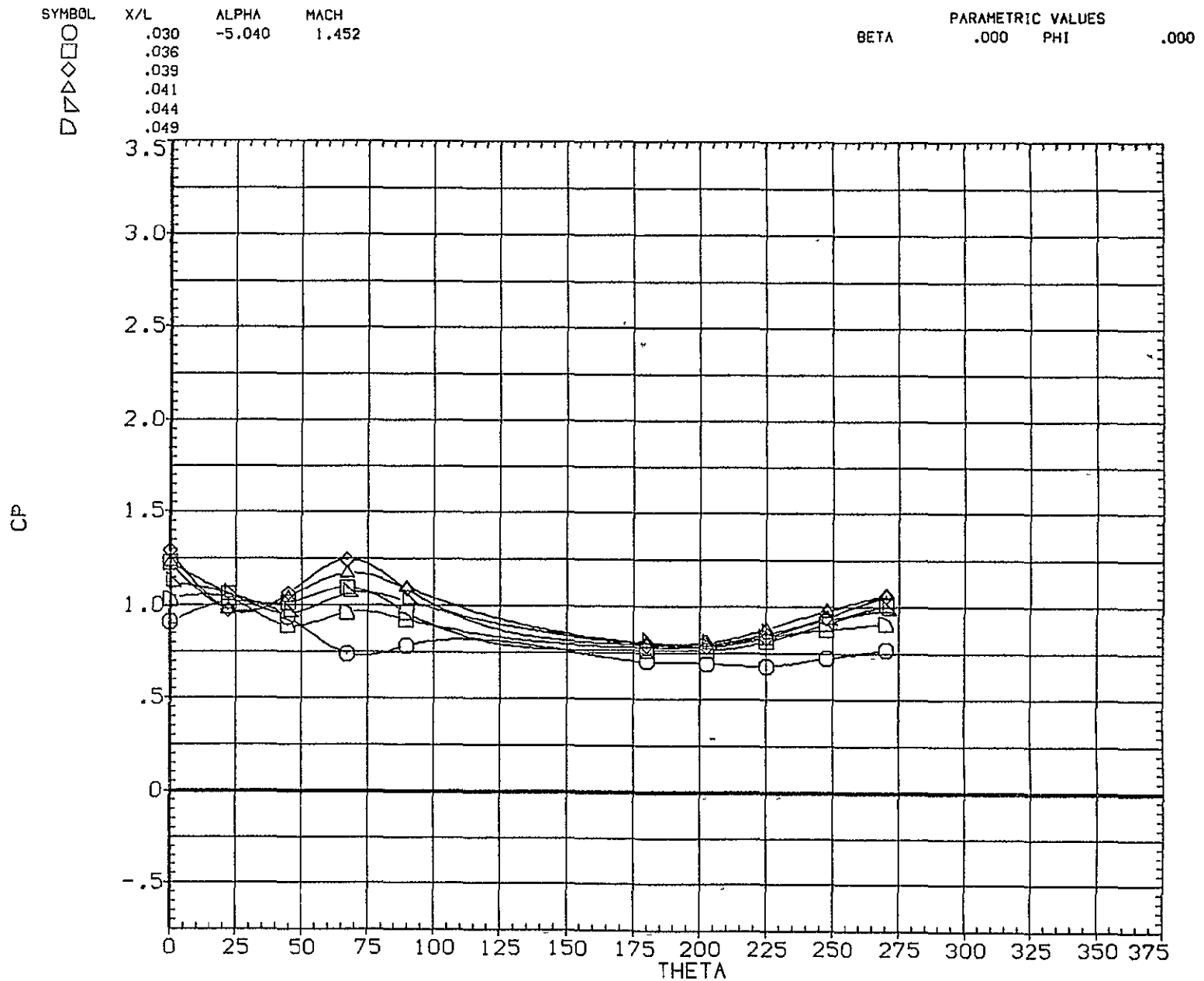
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G001)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.016	-5.040	1.452		.000		.000
◇	.018						
□	.020						
△	.022						
▽	.025						
◻	.028						



EFFECT OF RADIAL LOCATION ON PRESSURE



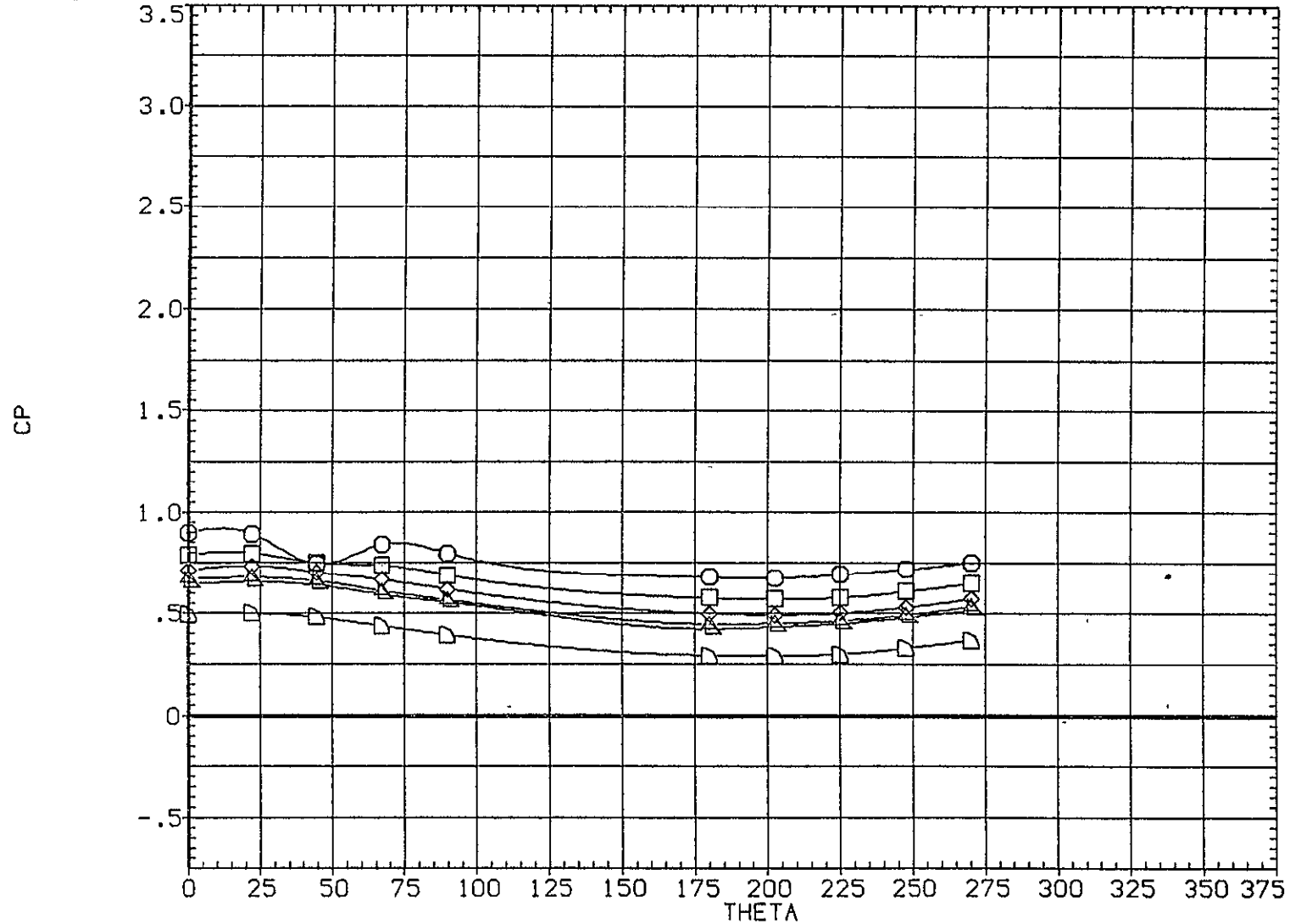
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

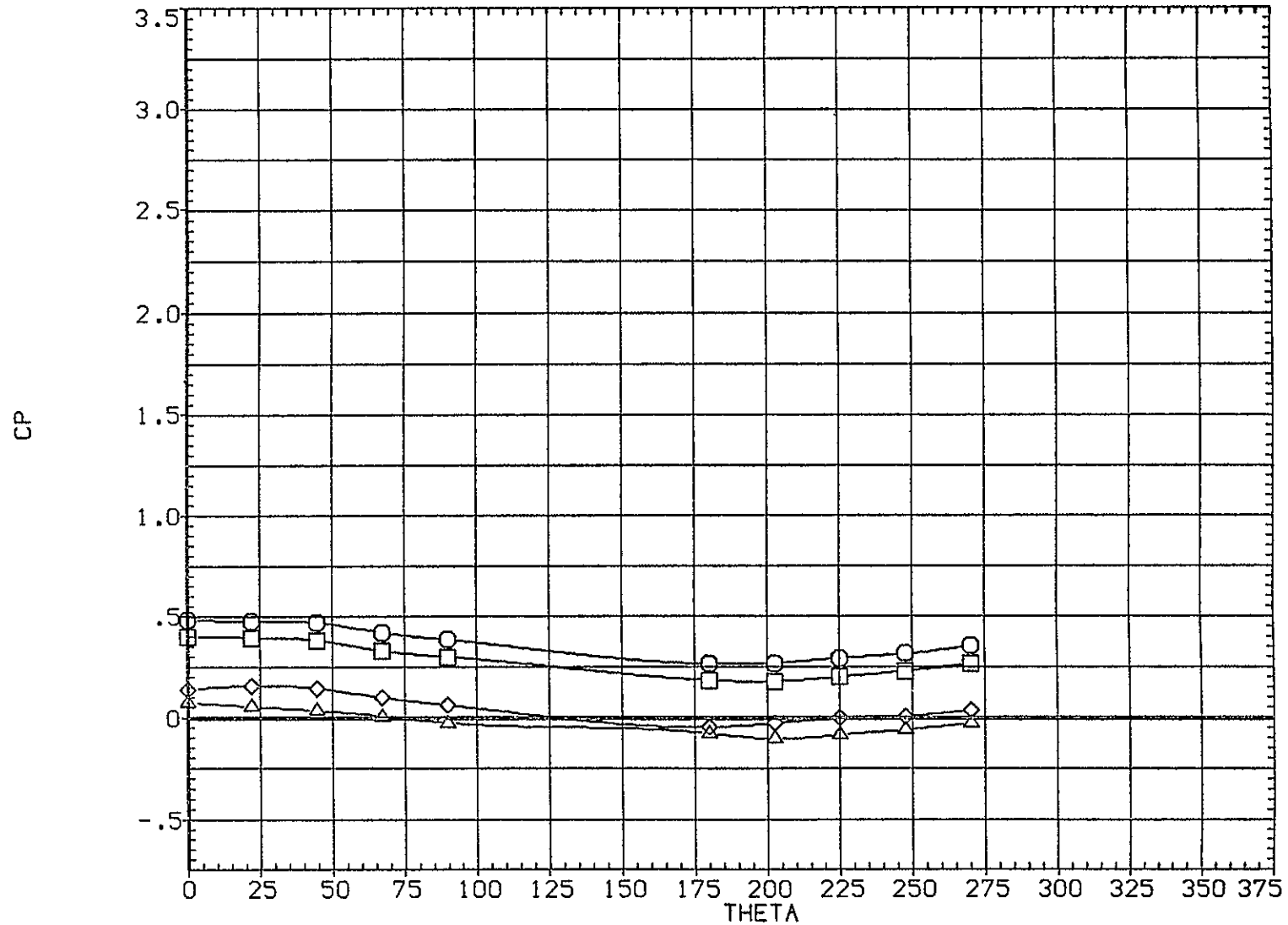
(B1G001)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-5.040	1.452	.000		.000
□	.068					
◇	.077					
△	.085					
▽	.093					
◻	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	-5.040	1.452		.000		.000
□	.131						
◇	.167						
△	.185						

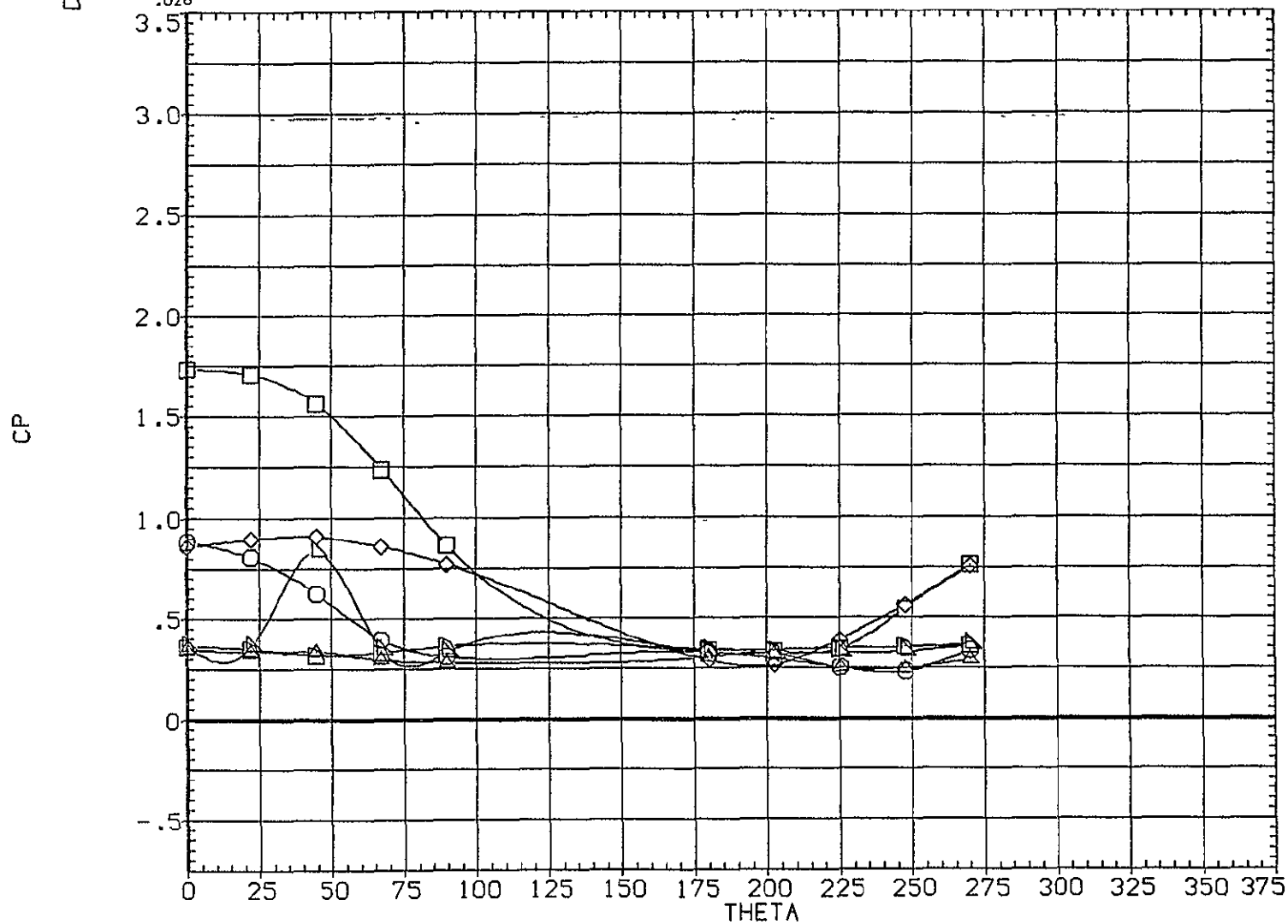


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

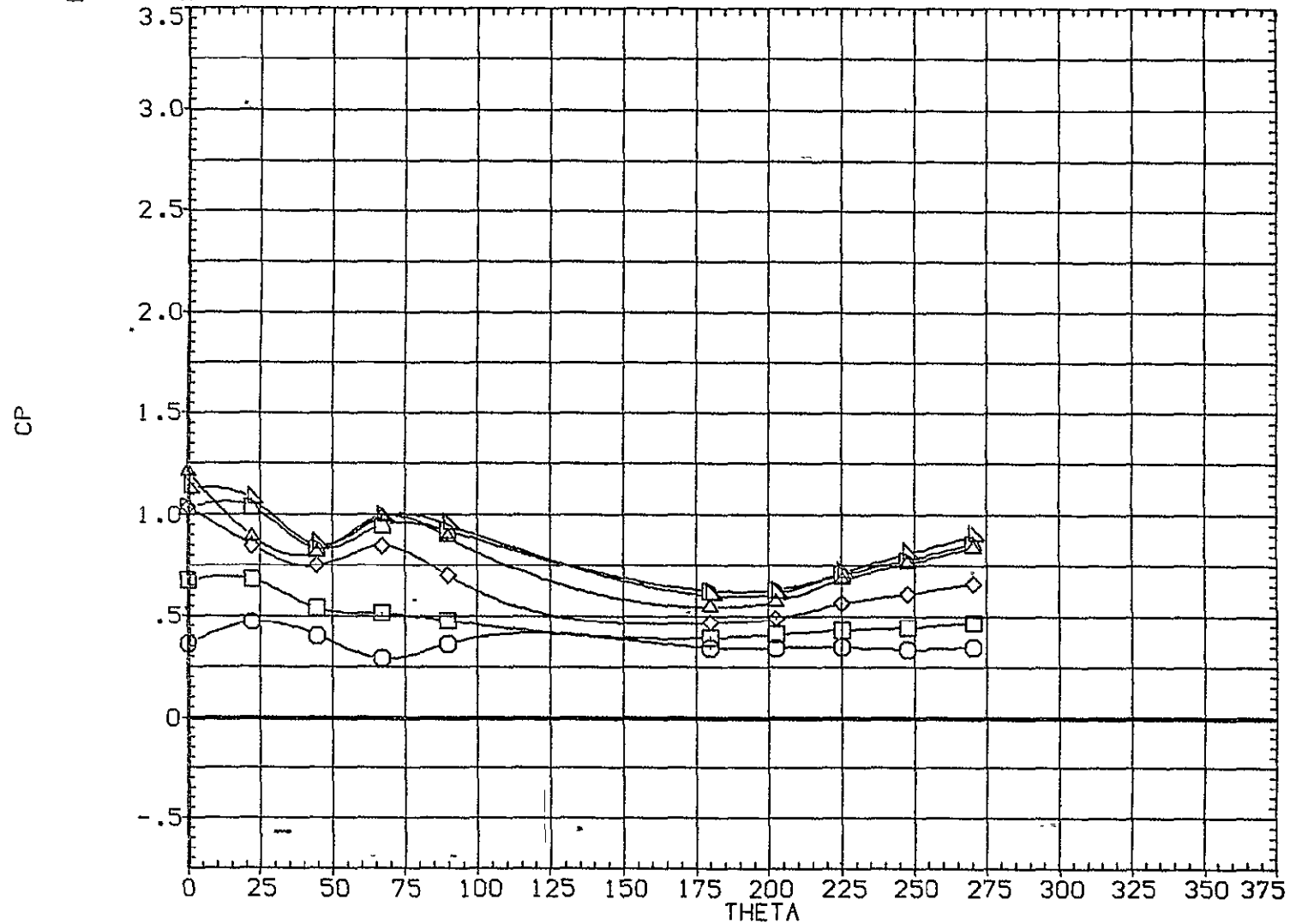
(B16001)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-5.040	1.967			
□	.018					
◇	.020					
△	.022					
▽	.025					
◻	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

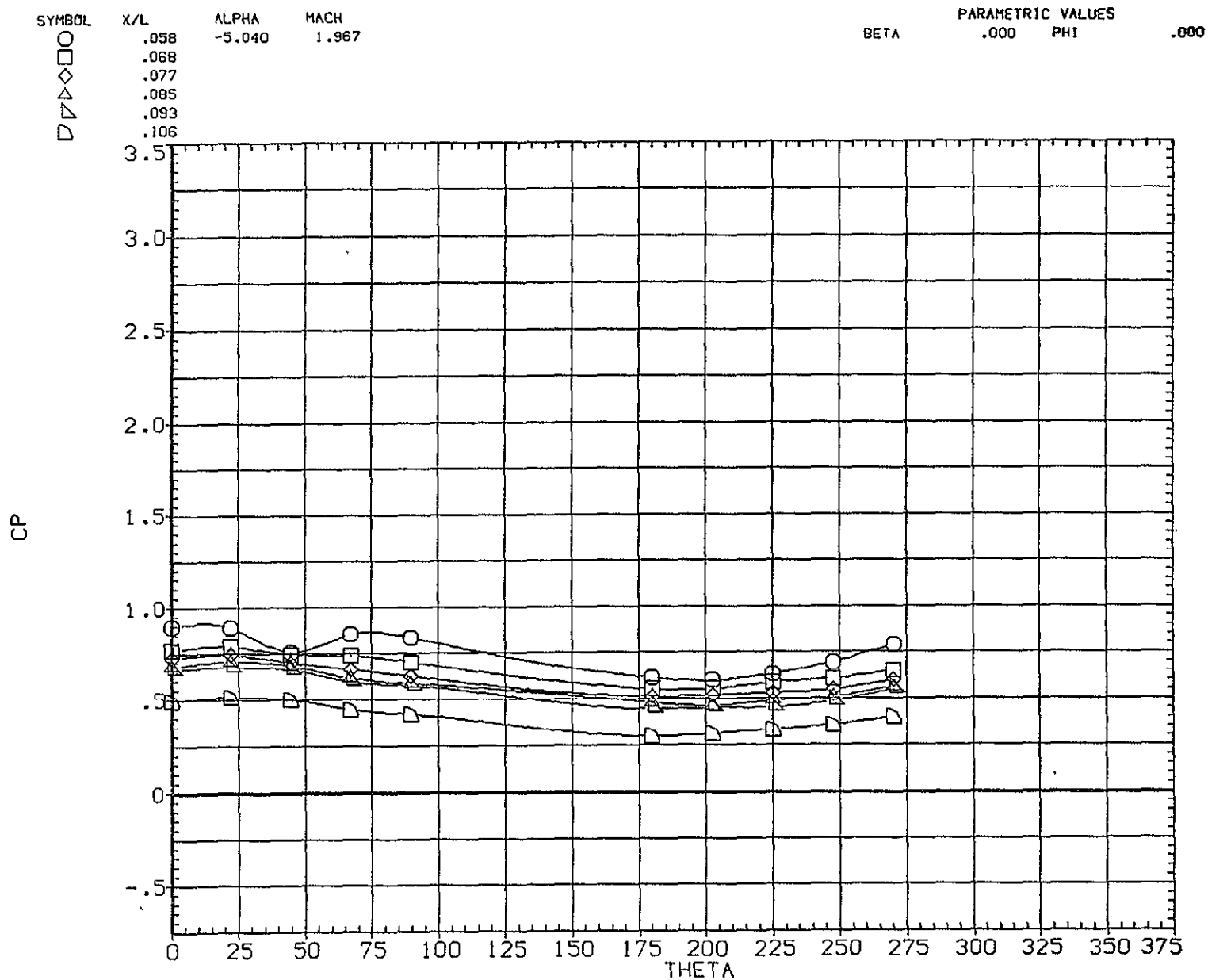
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	.000
○	.030	-5.040	1.967			
□	.036					
◇	.039					
△	.041					
▽	.044					
◊	.049					



EFFECT OF RADIAL LOCATION ON PRESSURE

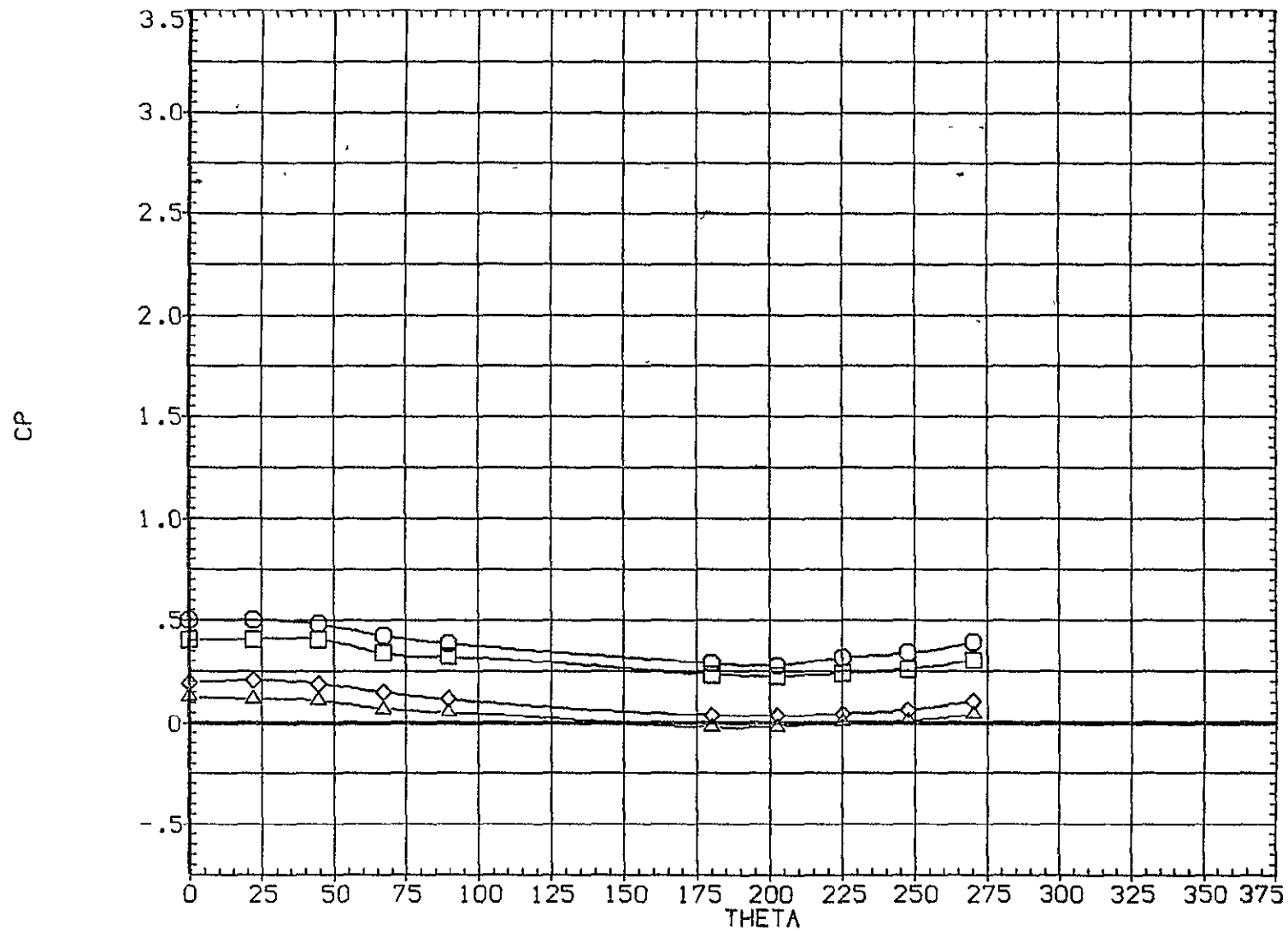
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16001)



EFFECT OF RADIAL LOCATION ON PRESSURE

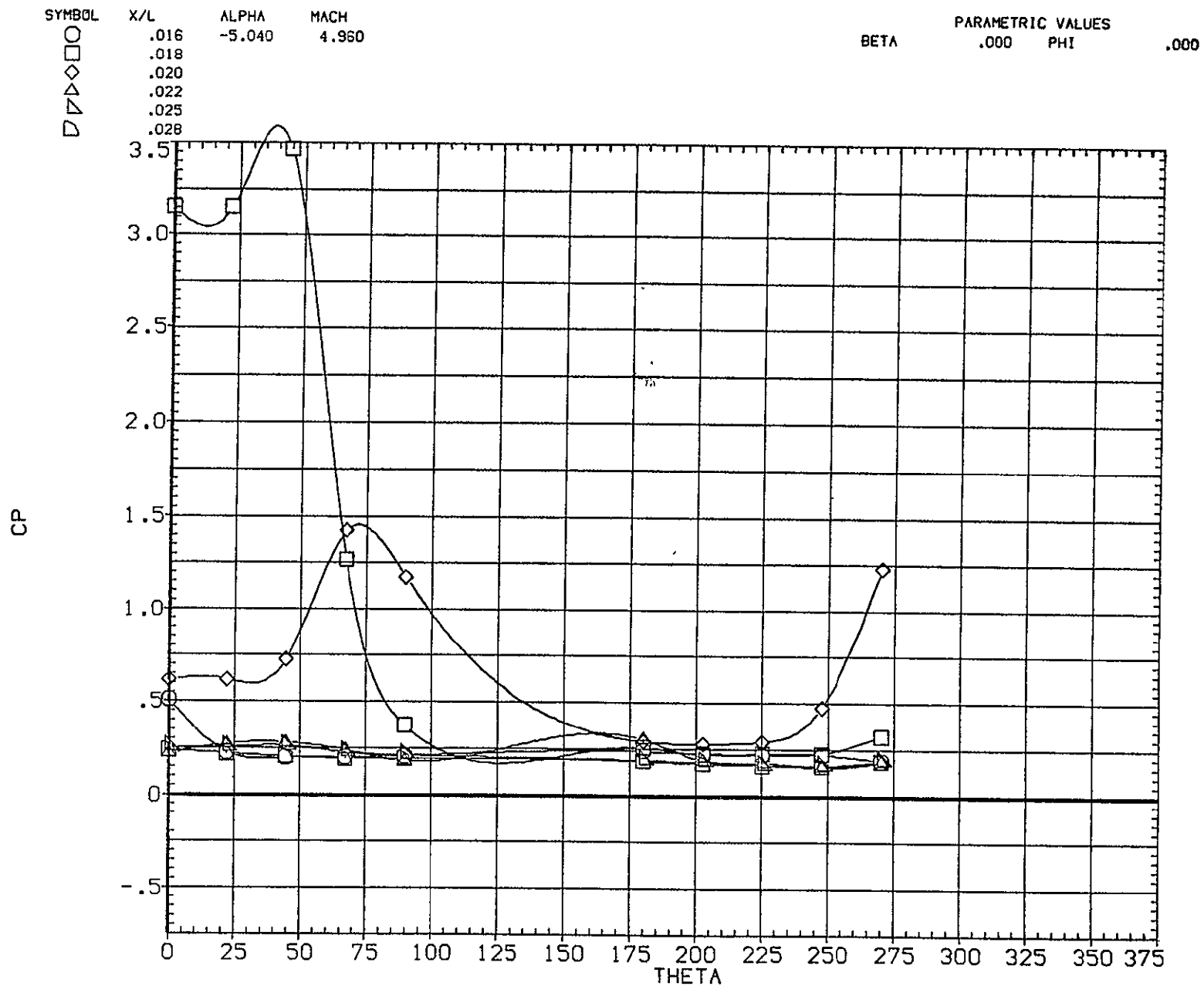
SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	-5.040	1.967		.000		.000
□	.131						
◇	.167						
△	.185						



EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G001)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL

X/L

ALPHA

MACH

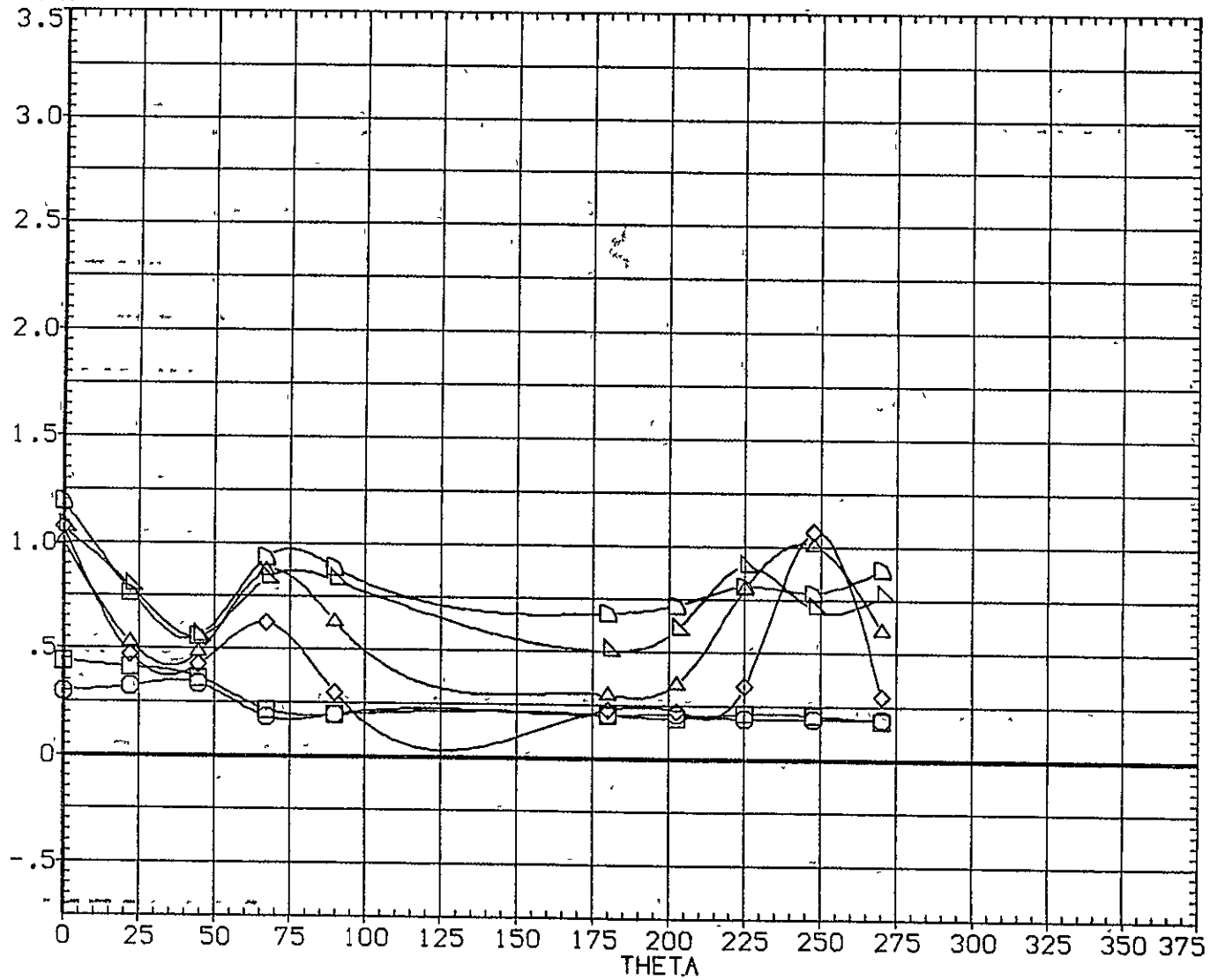
PARAMETRIC VALUES

BETA

.000

PHI

CP



EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G001)

SYMBOL

○  
□  
◇  
△  
▽  
◻

X/L

ALPHA

MACH

.058  
.068  
.077  
.085  
.093  
.106

-5.040

4.960

BETA

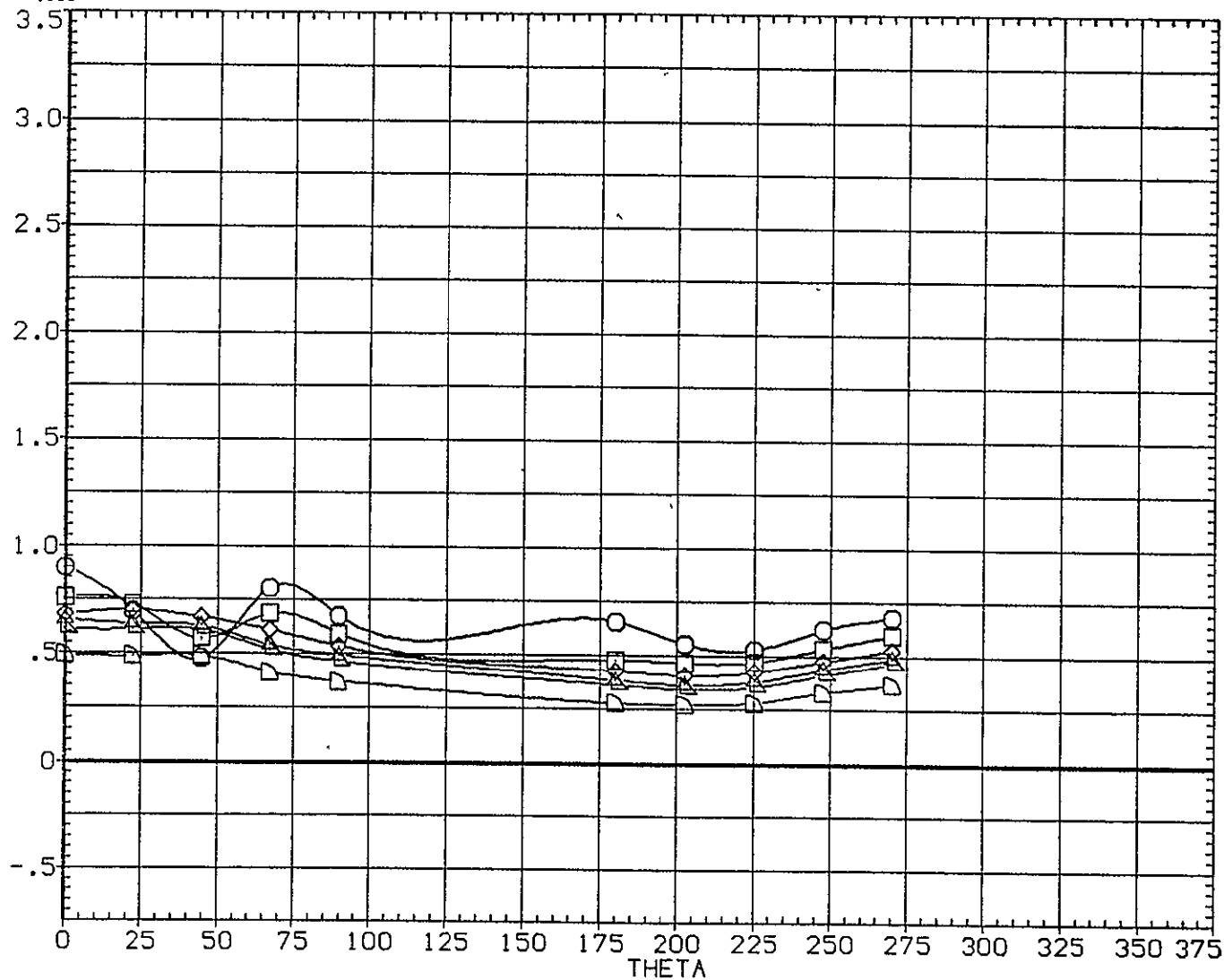
PARAMETRIC VALUES

.000

PHI

.000

CP



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL

X/L

ALPHA

MACH

PARAMETRIC VALUES

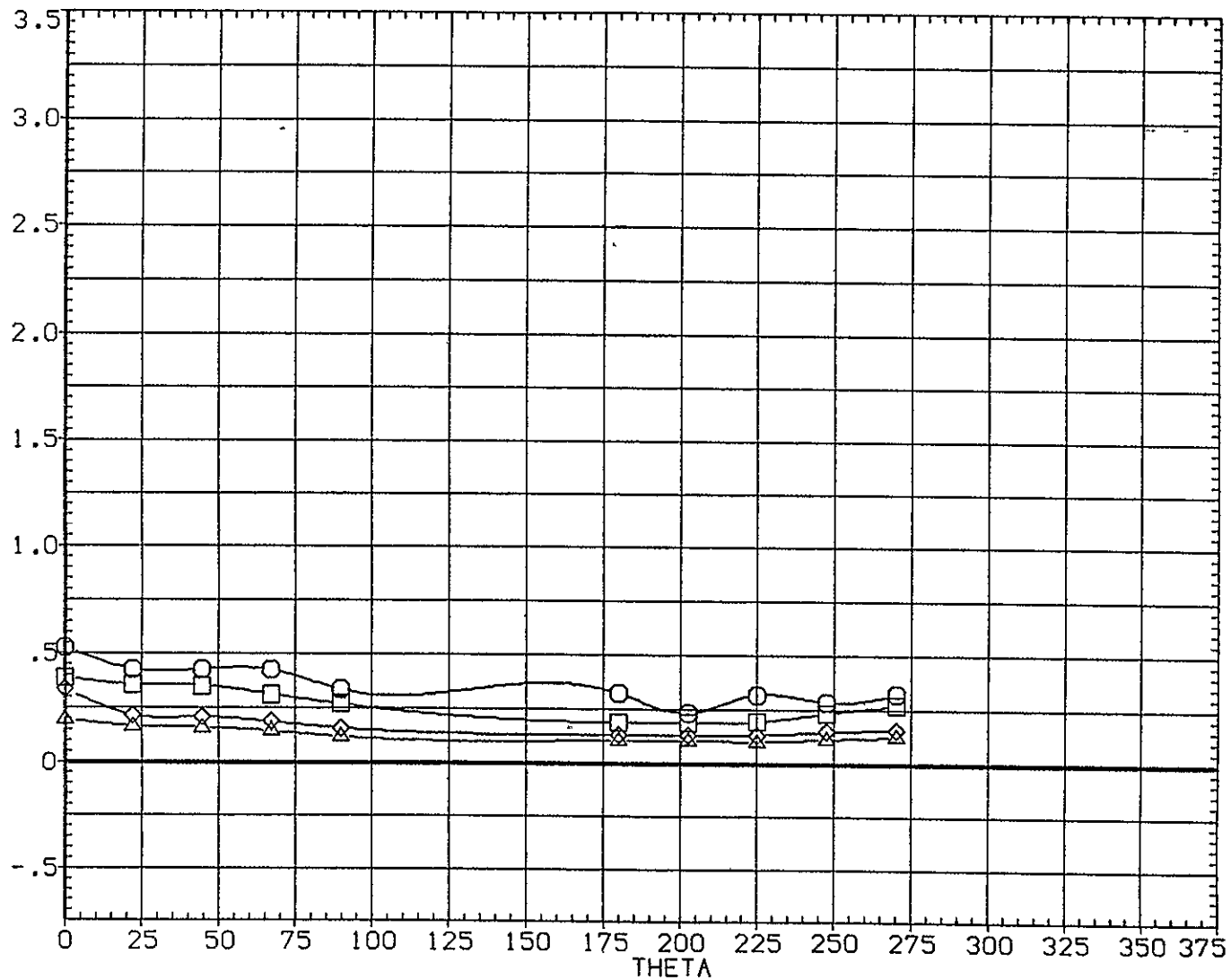
BETA

.000

PHI

○  
□  
◇  
△.118  
.131  
.167  
.185

CP

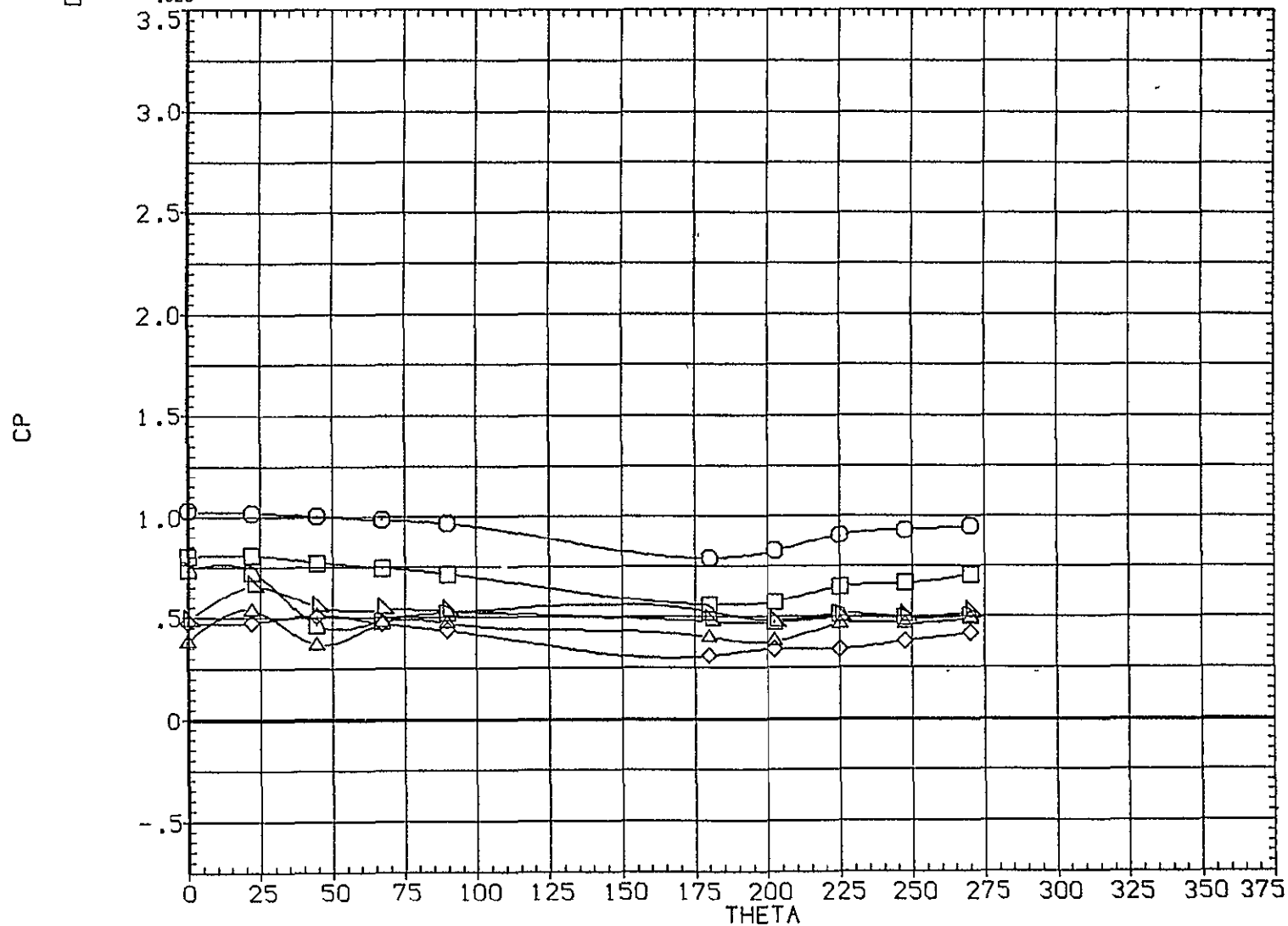


EFFECT OF RADIAL LOCATION ON PRESSURE

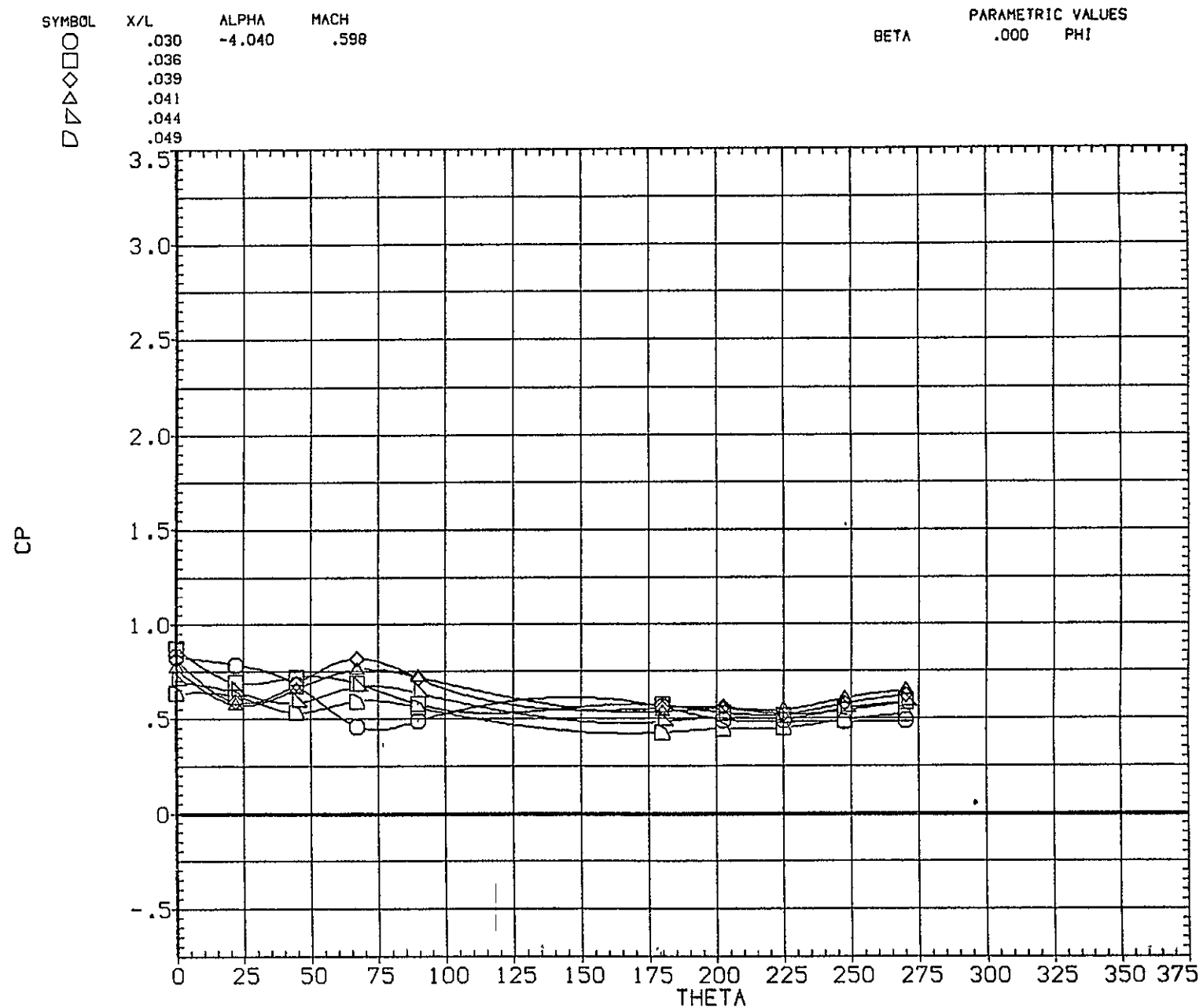
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G002)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-4.040	.598	.000	.000	.000
□	.018					
△	.020					
▽	.022					
◇	.025					
◇	.028					



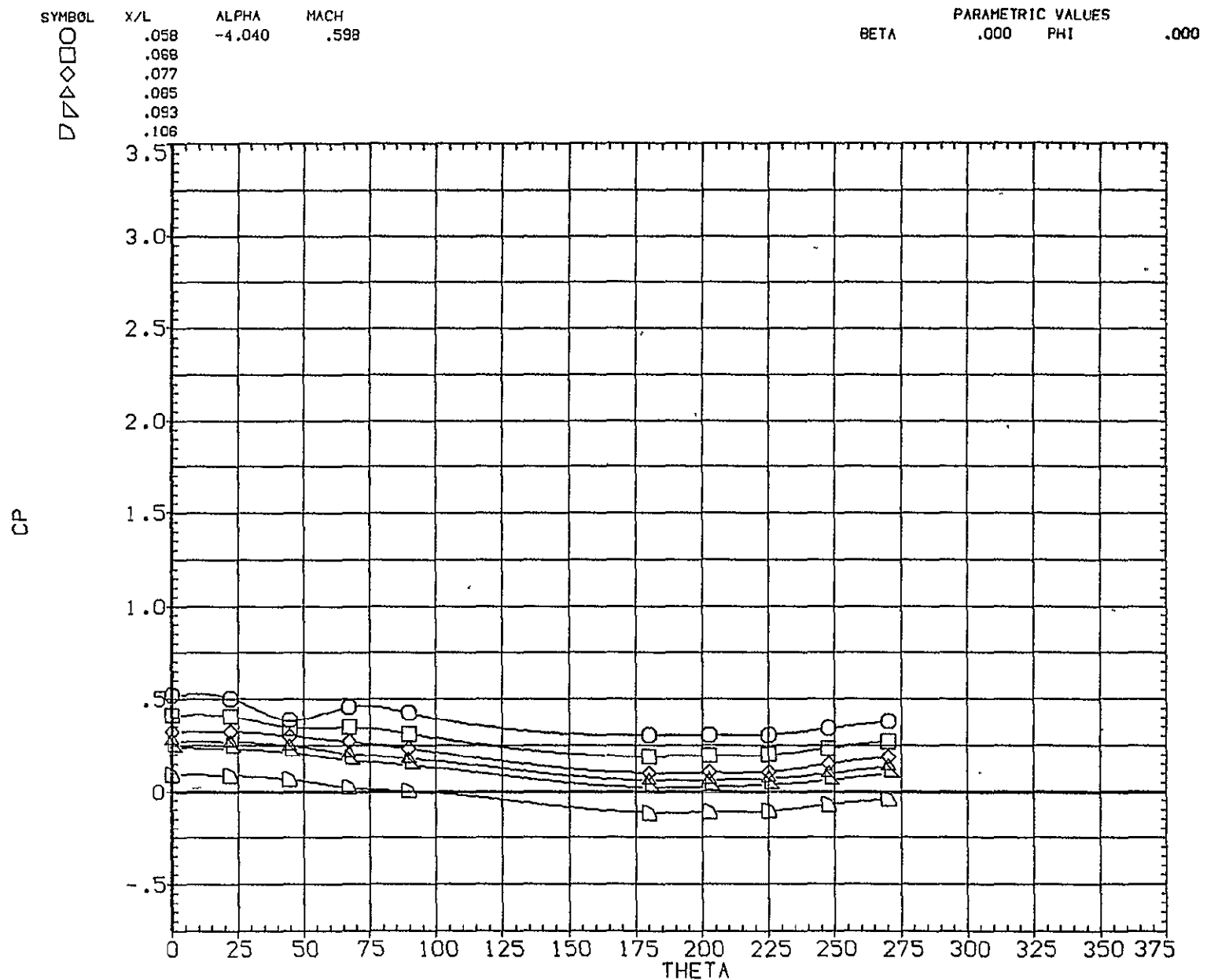
EFFECT OF RADIAL LOCATION ON PRESSURE



EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G002)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL

X/L

ALPHA

MACH

BETA

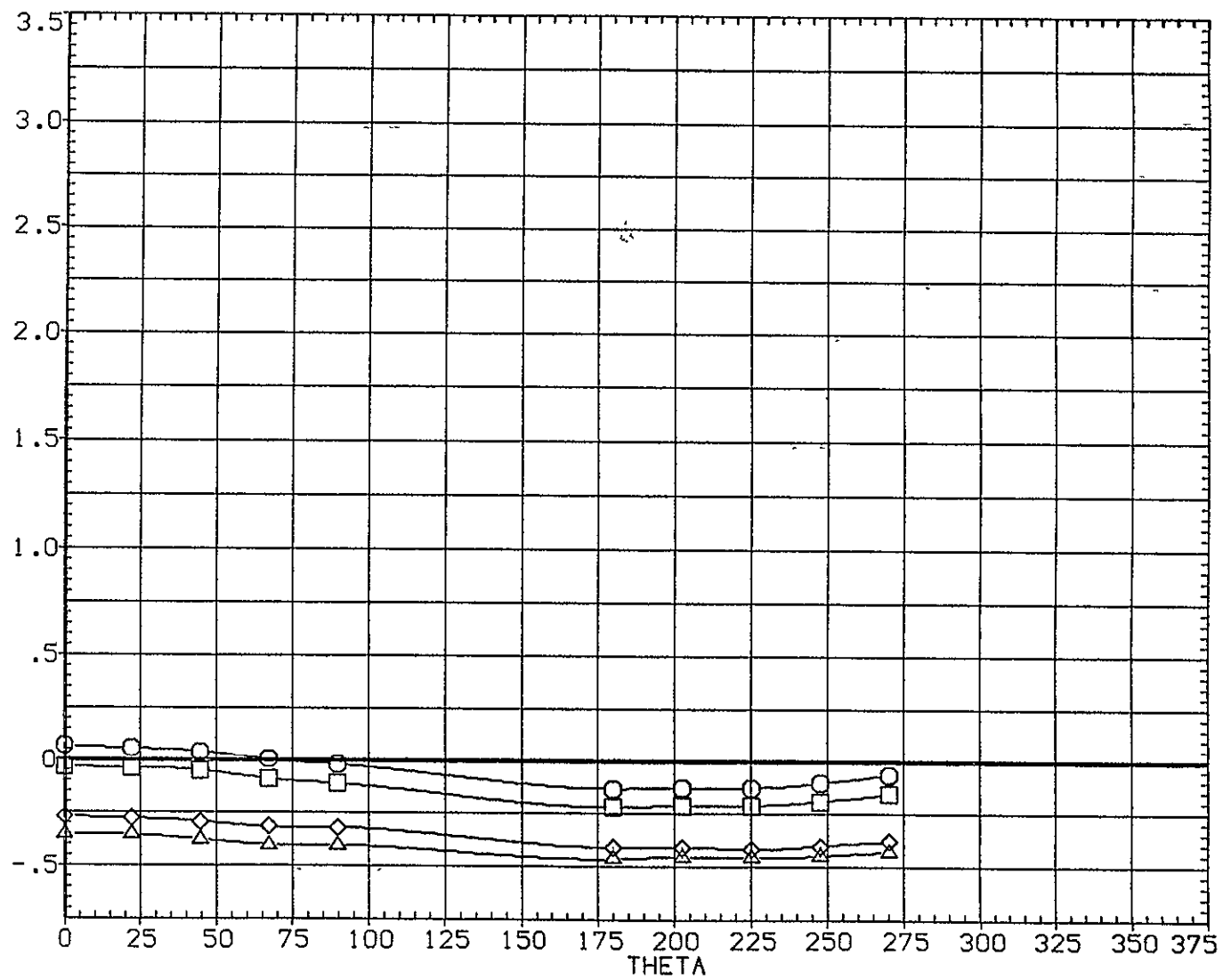
PARAMETRIC VALUES

.000

PHI

○  
□  
◇  
△.118  
.131  
.167  
.185

CP



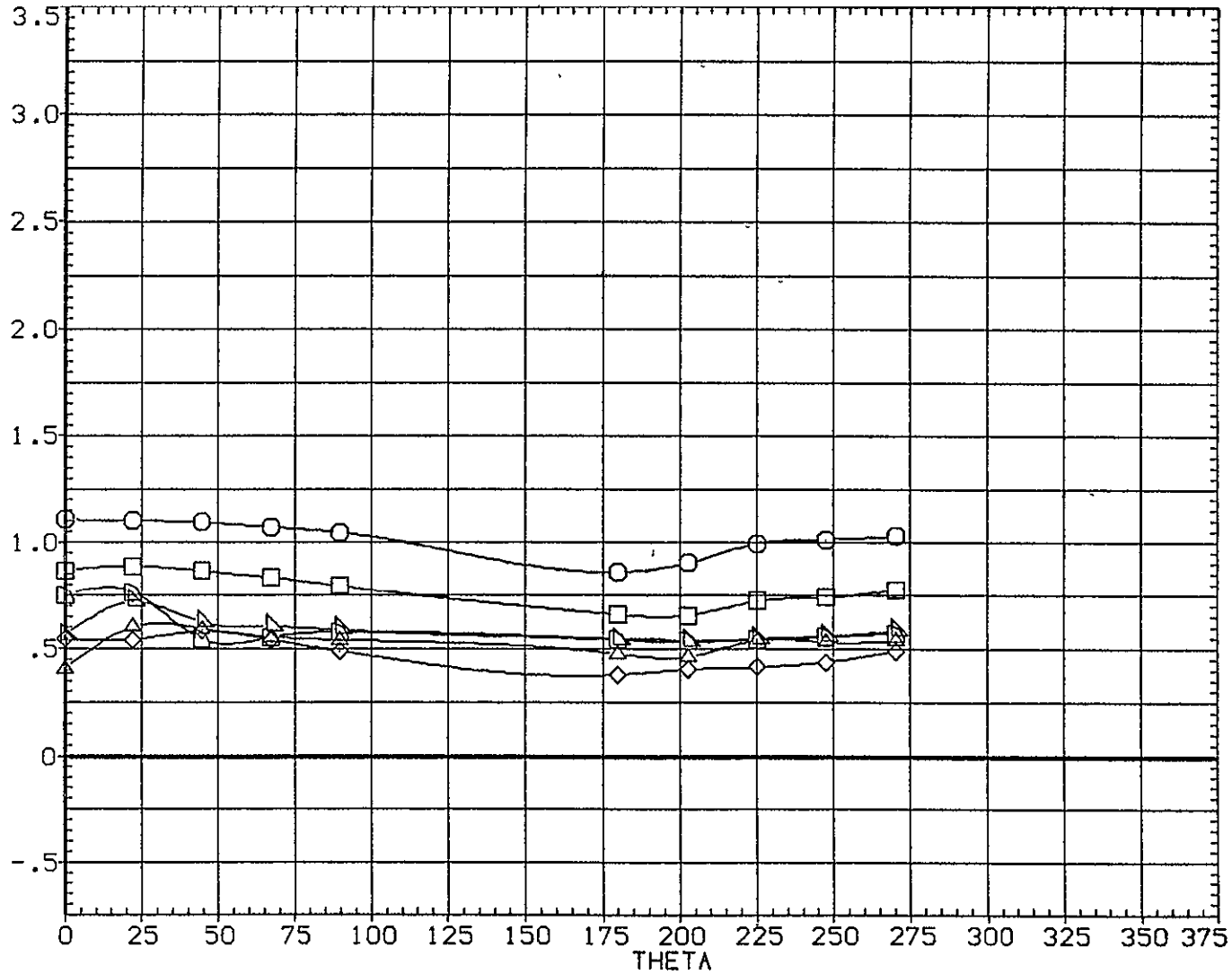
EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

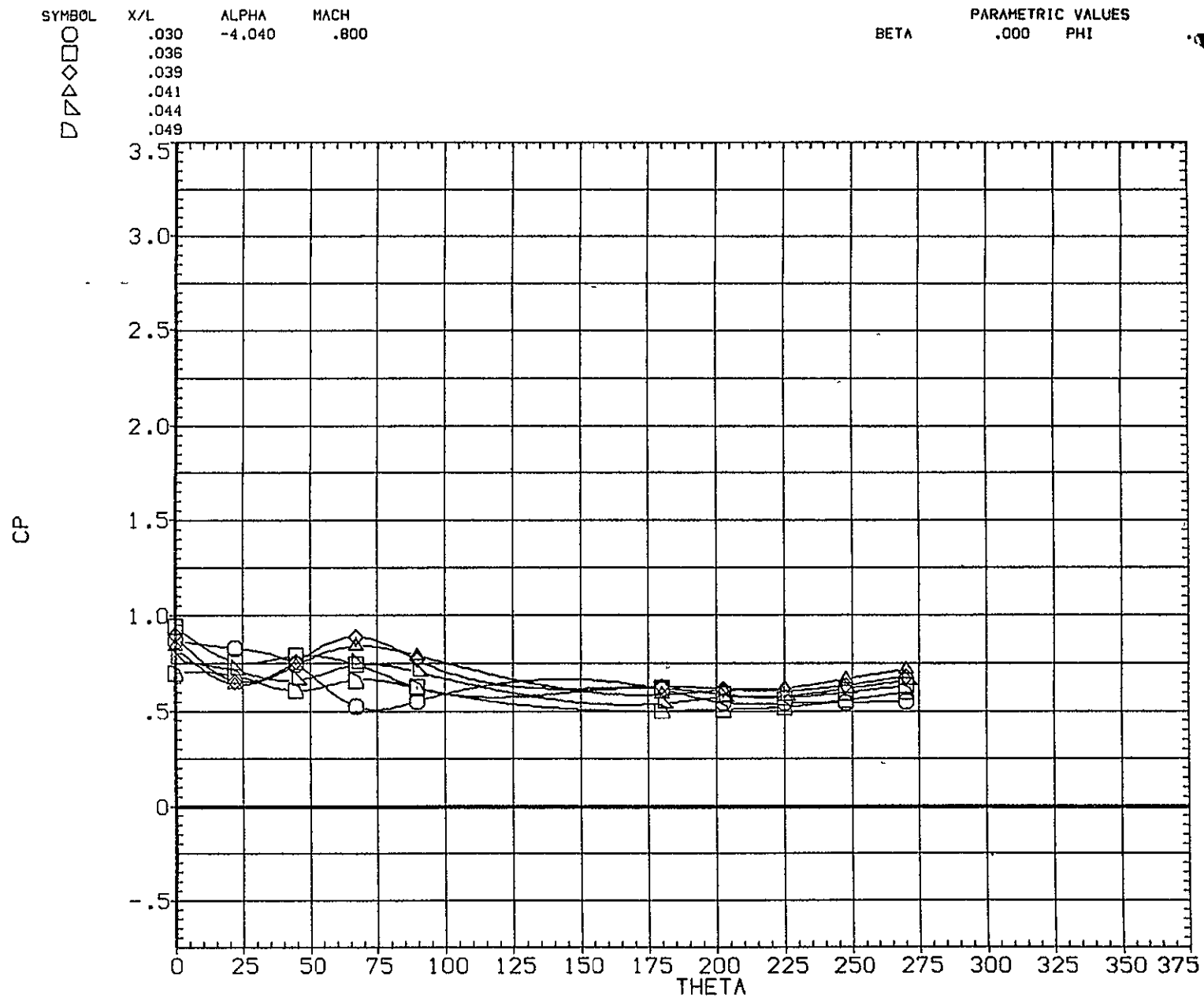
(B1G002)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	
		-4.040	.800		.000	PHI .000

CP



EFFECT OF RADIAL LOCATION ON PRESSURE



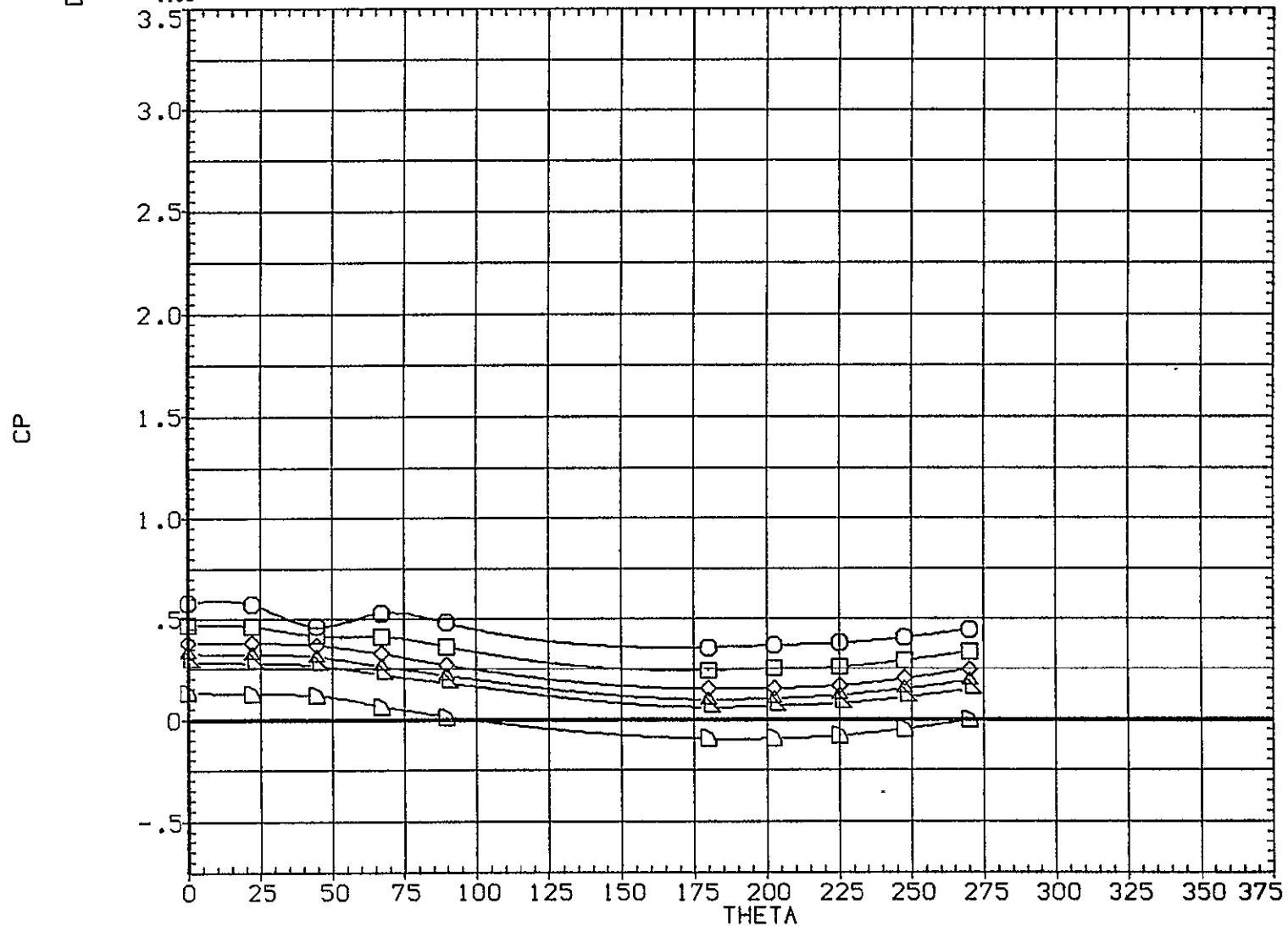
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G002)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-4.040	.800	.000	.000	
□	.068					
◇	.077					
△	.085					
▽	.093					
◻	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL

○  
□  
◇  
△

X/L

.118  
.131  
.167  
.185

ALPHA

-4.040

MACH

.800

BETA

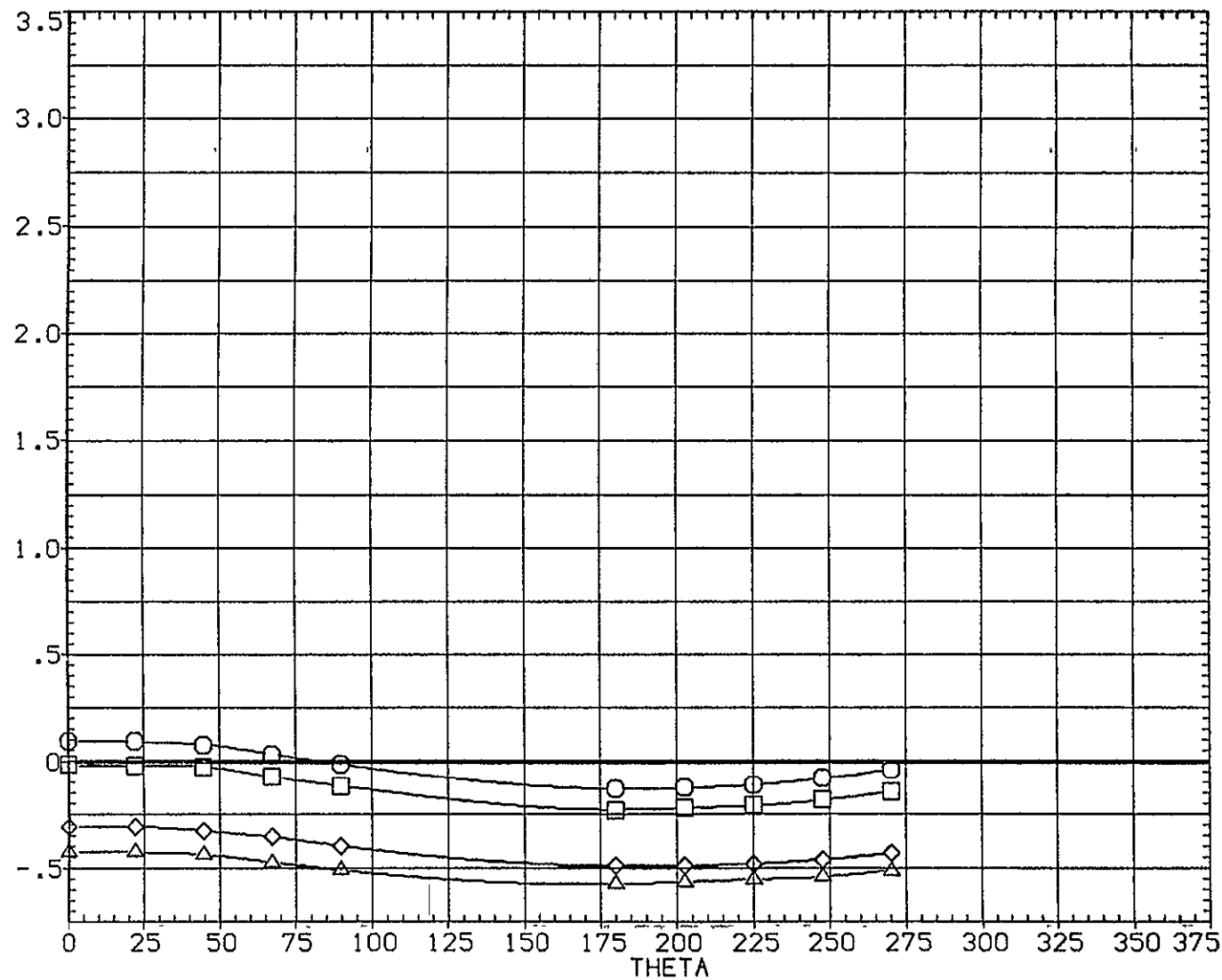
PARAMETRIC VALUES

.000

PHI

.000

CP

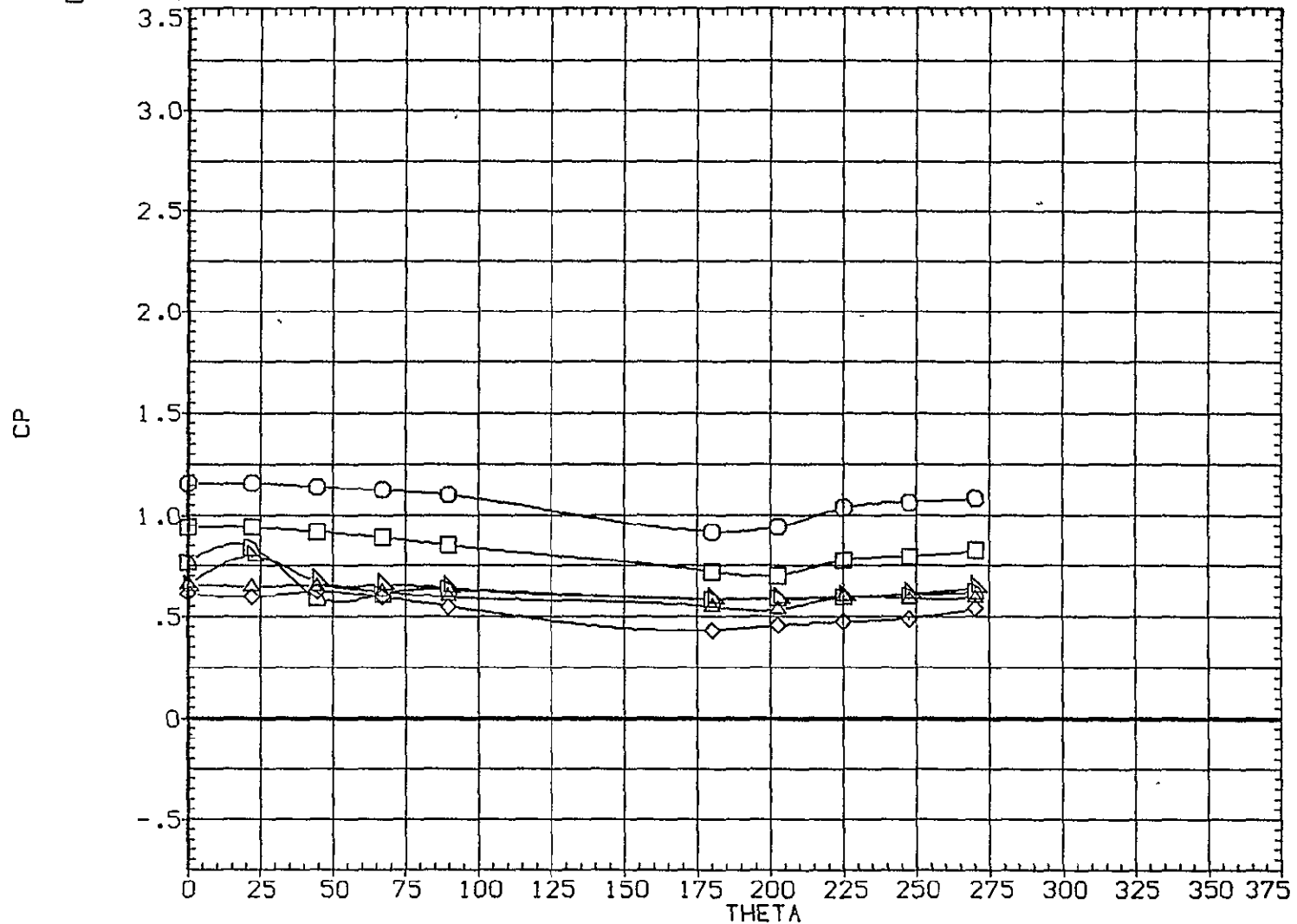


EFFECT OF RADIAL LOCATION ON PRESSURE

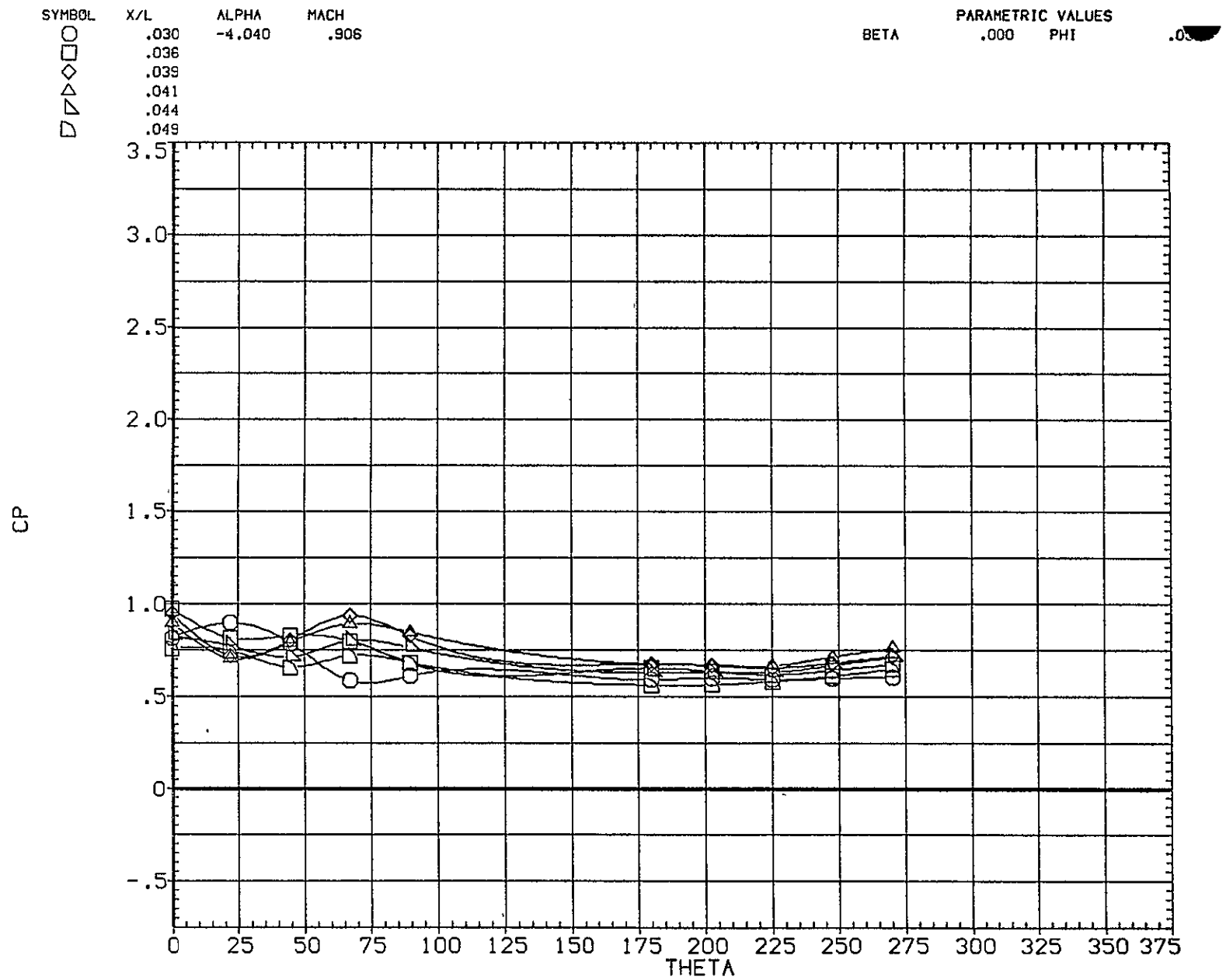
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16002)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-4.040	.906			
□	.018					
◇	.020					
△	.022					
▽	.025					
◊	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

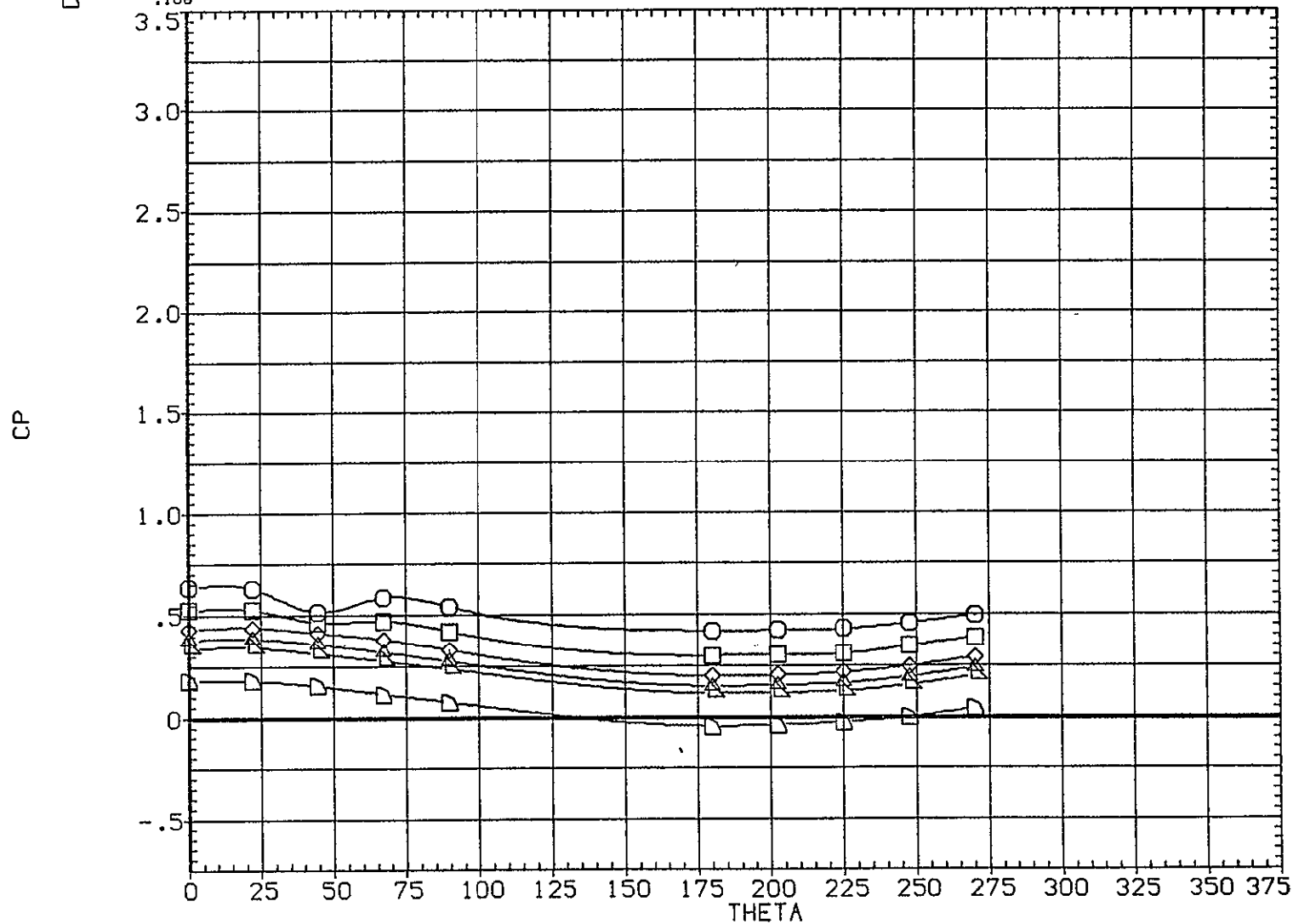


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G002)

SYMBOL ○ □ ◇ △ ▽ ◇ ▽	X/L	ALPHA	MACH	PARAMETRIC VALUES		
	.058	-4.040	.906	BETA	.000	PHI
	.068					.000
	.077					
	.085					
	.093					
	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL

X/L

ALPHA

MACH

BETA

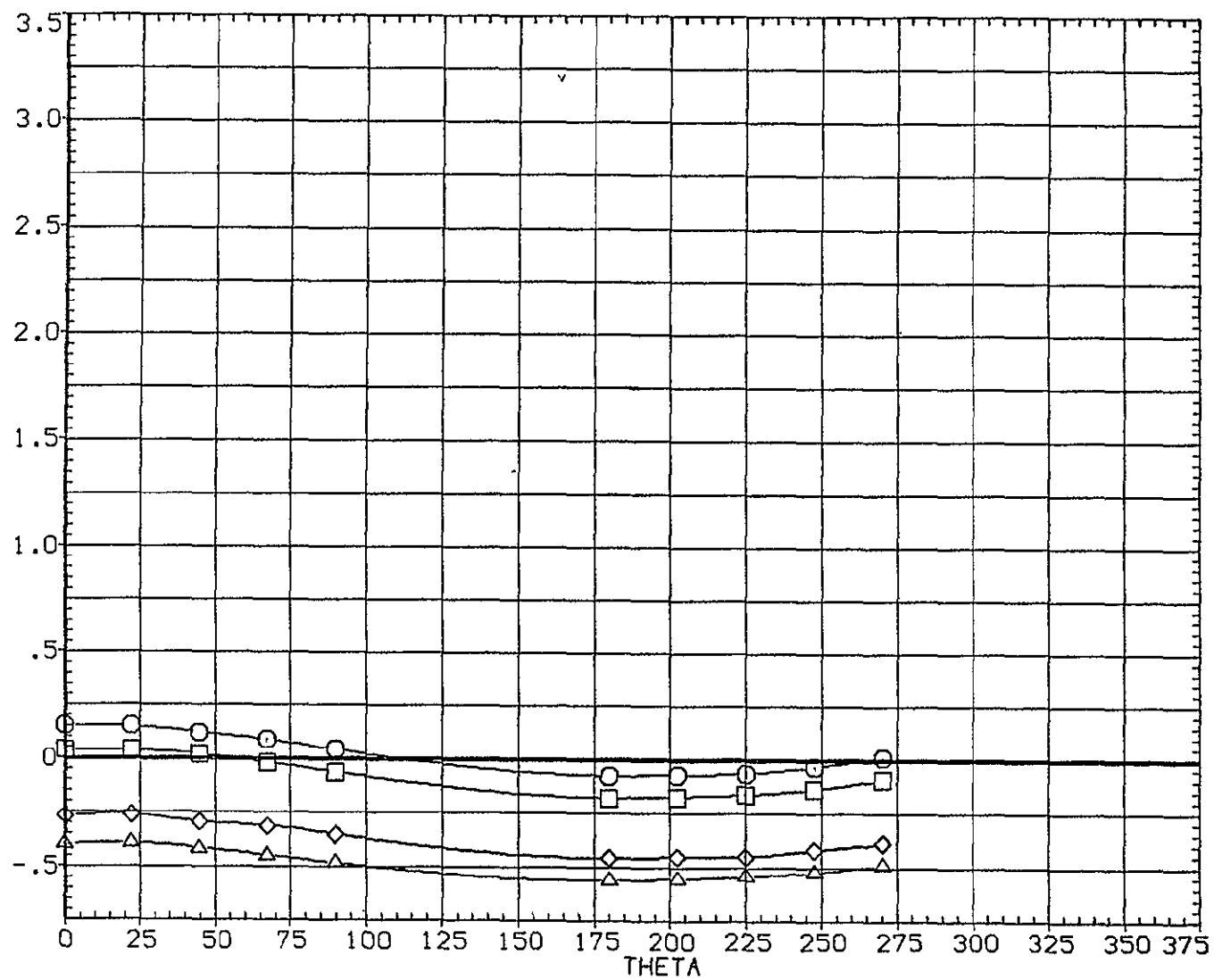
PARAMETRIC VALUES

.000

PHI

○  
□  
◇  
△.118  
.131  
.157  
.185

CP

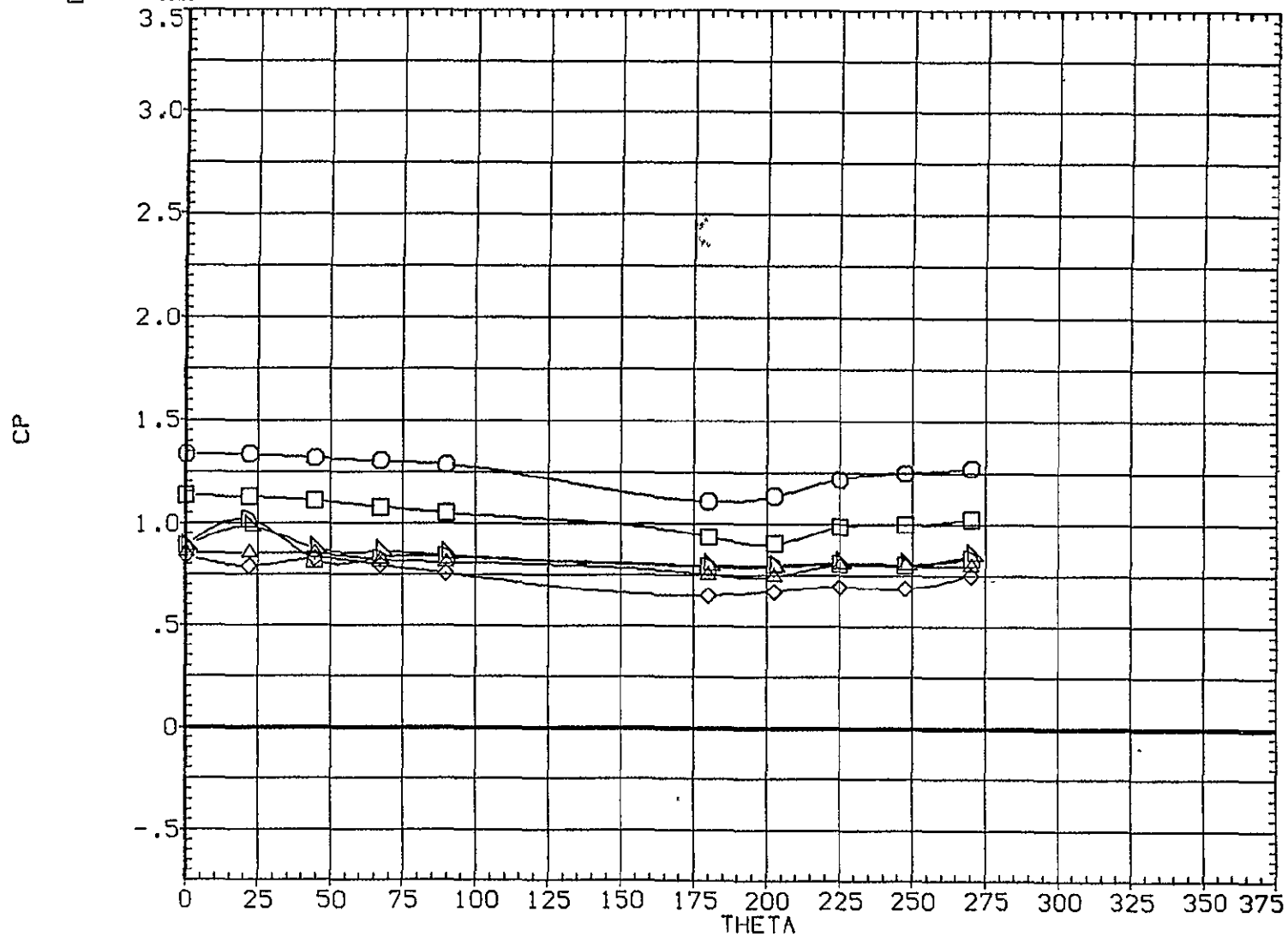


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

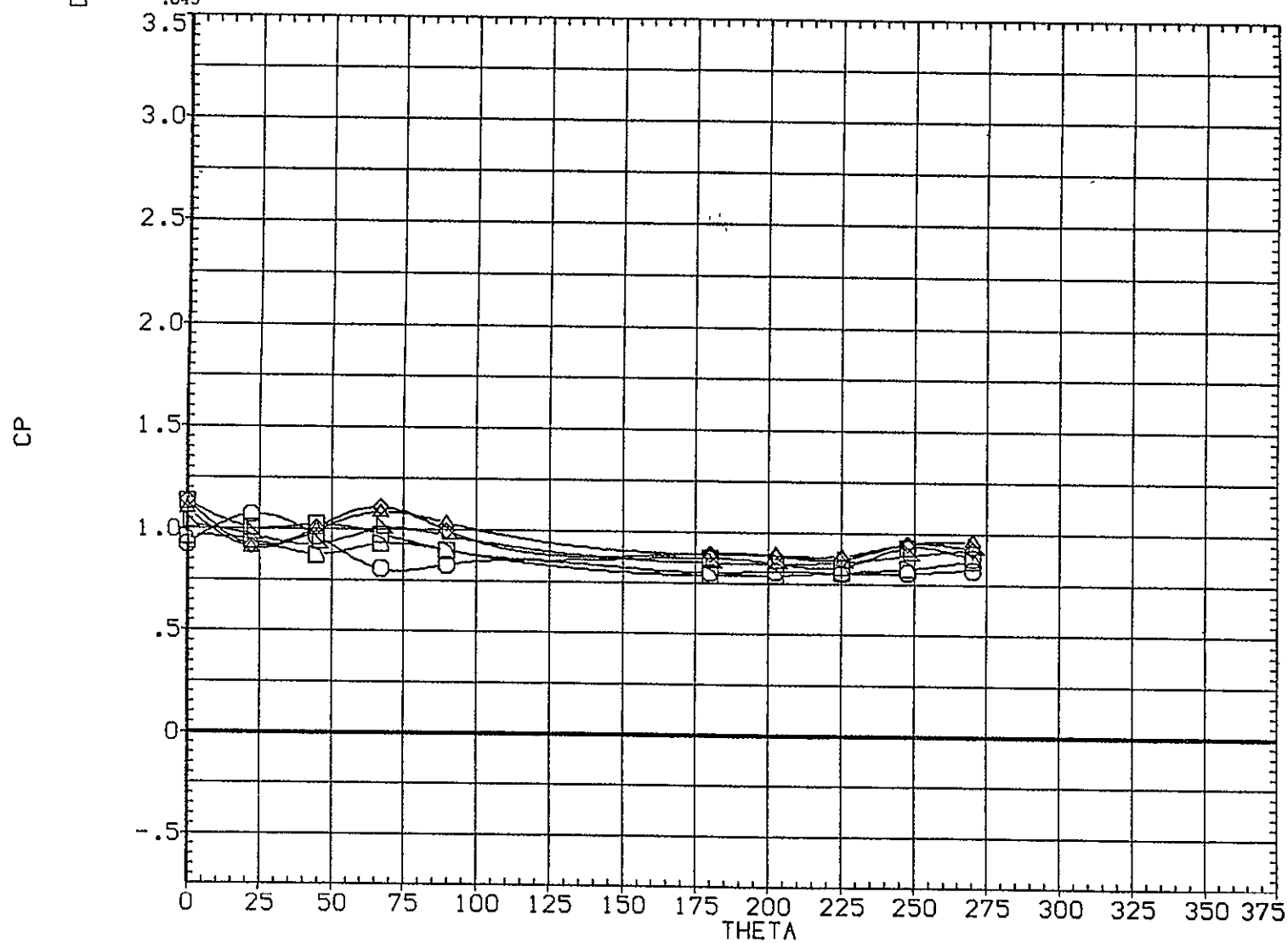
(B1G002)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
		-4.040	1.204	BETA	.000	PHI
	.016					.000
	.018					
	.020					
	.022					
.025						
.028						



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.030	-4.040	1.204		.000		.000
□	.036						
◇	.039						
△	.041						
▽	.044						
◇	.049						



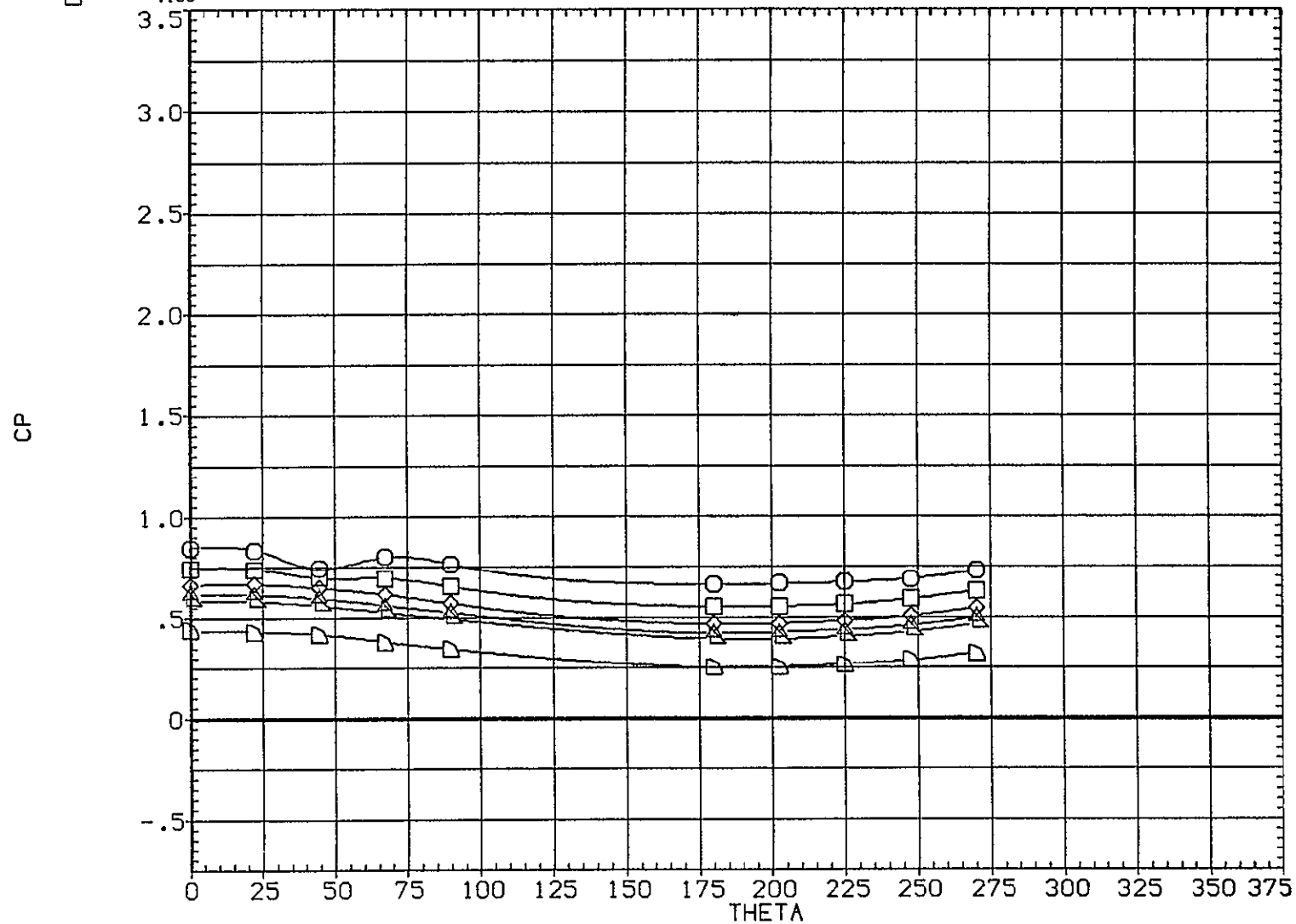
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

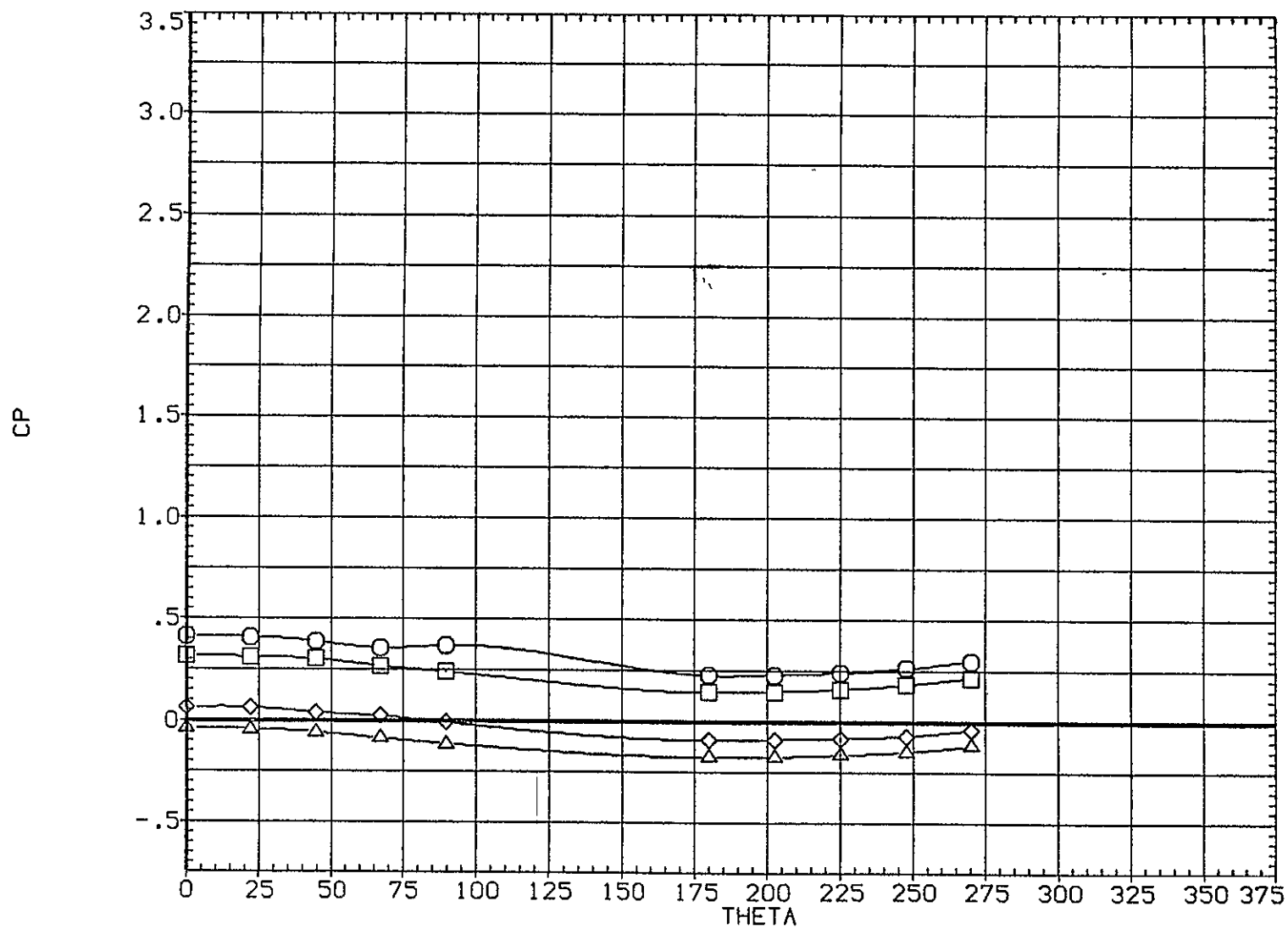
(B1G002)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-4.040	1.204	.000		.000
□	.068					
◇	.077					
△	.085					
▽	.093					
◻	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.000
○	.118	-4.040	1.204				
□	.131						
◇	.167						
△	.185						

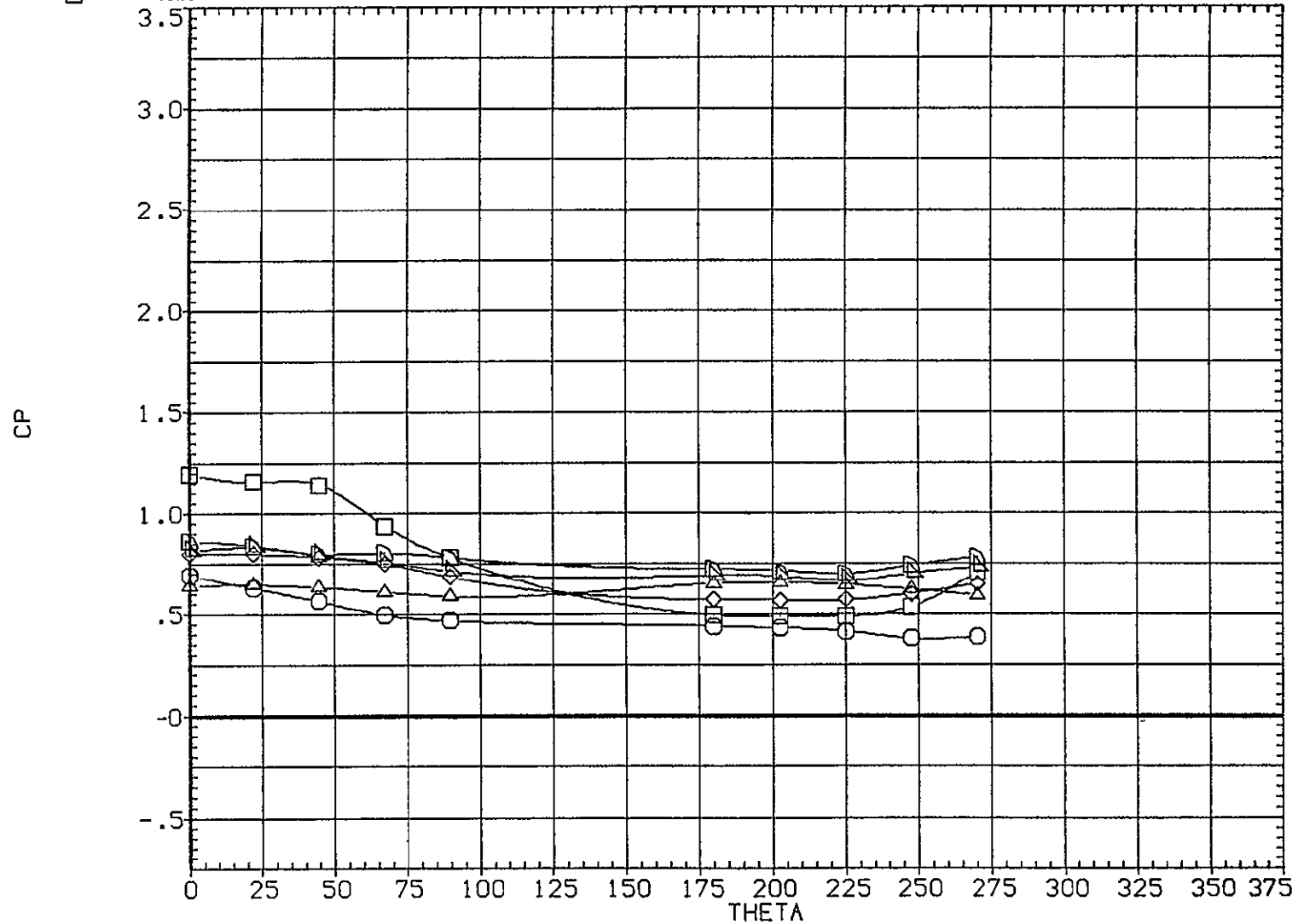


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

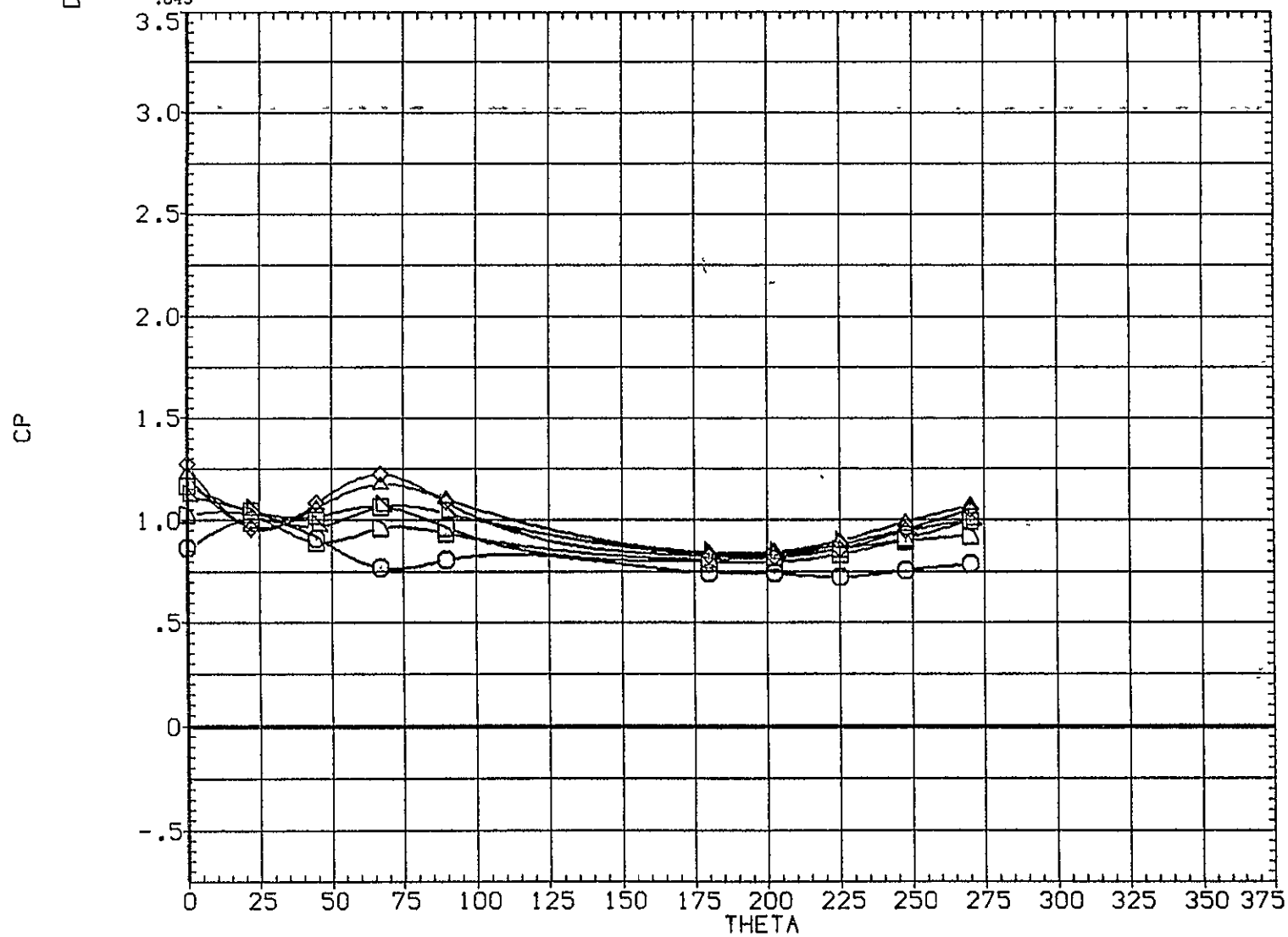
(B1G002)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-4.060	1.462			
□	.018					
◇	.020					
△	.022					
▽	.025					
◇	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

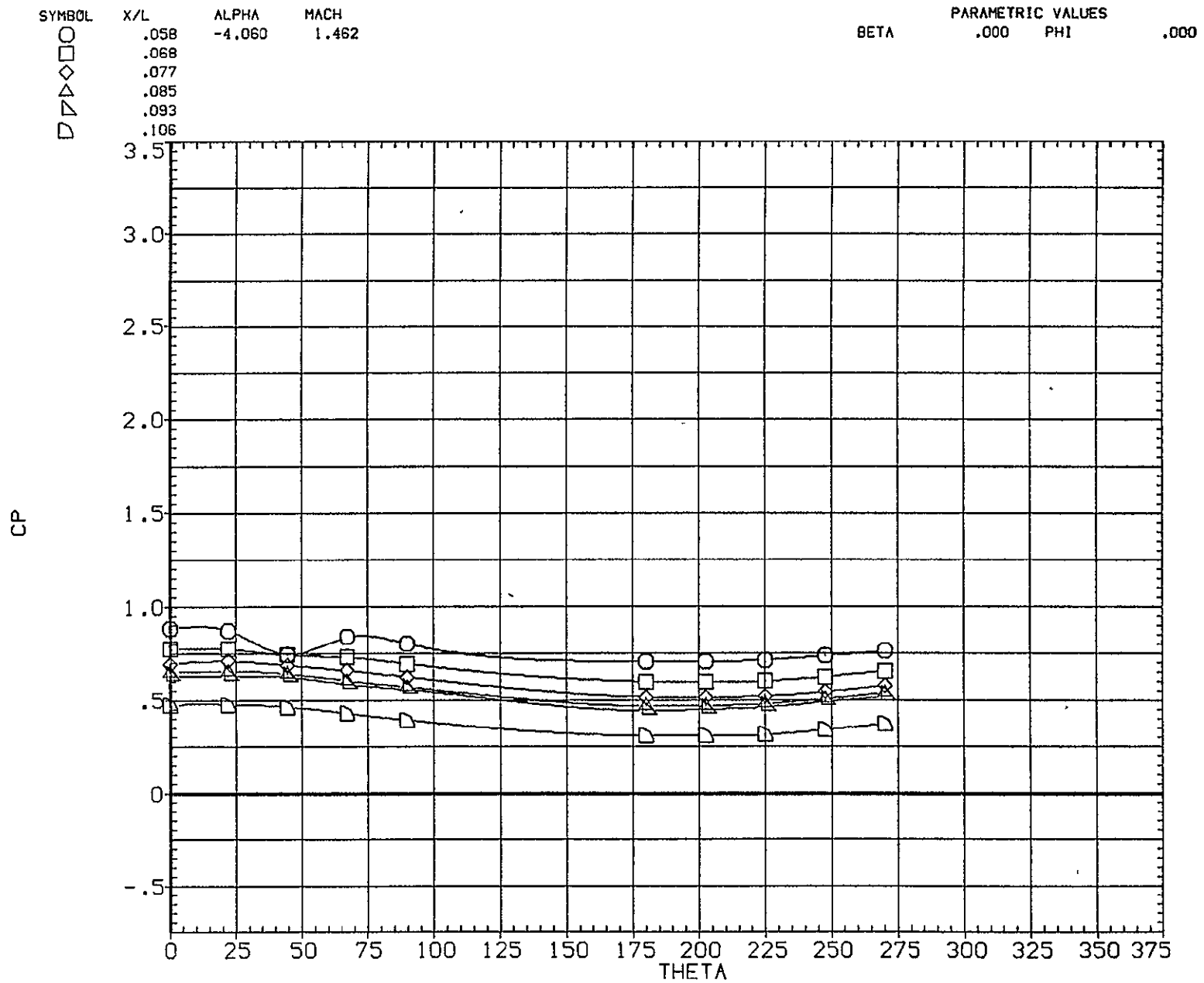
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES	
				BETA	PHI
○	.030	-4.060	1.462	.000	
□	.036				
◇	.039				
△	.041				
▽	.044				
◻	.049				



EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G002)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL

X/L

ALPHA

MACH

PARAMETRIC VALUES

BETA

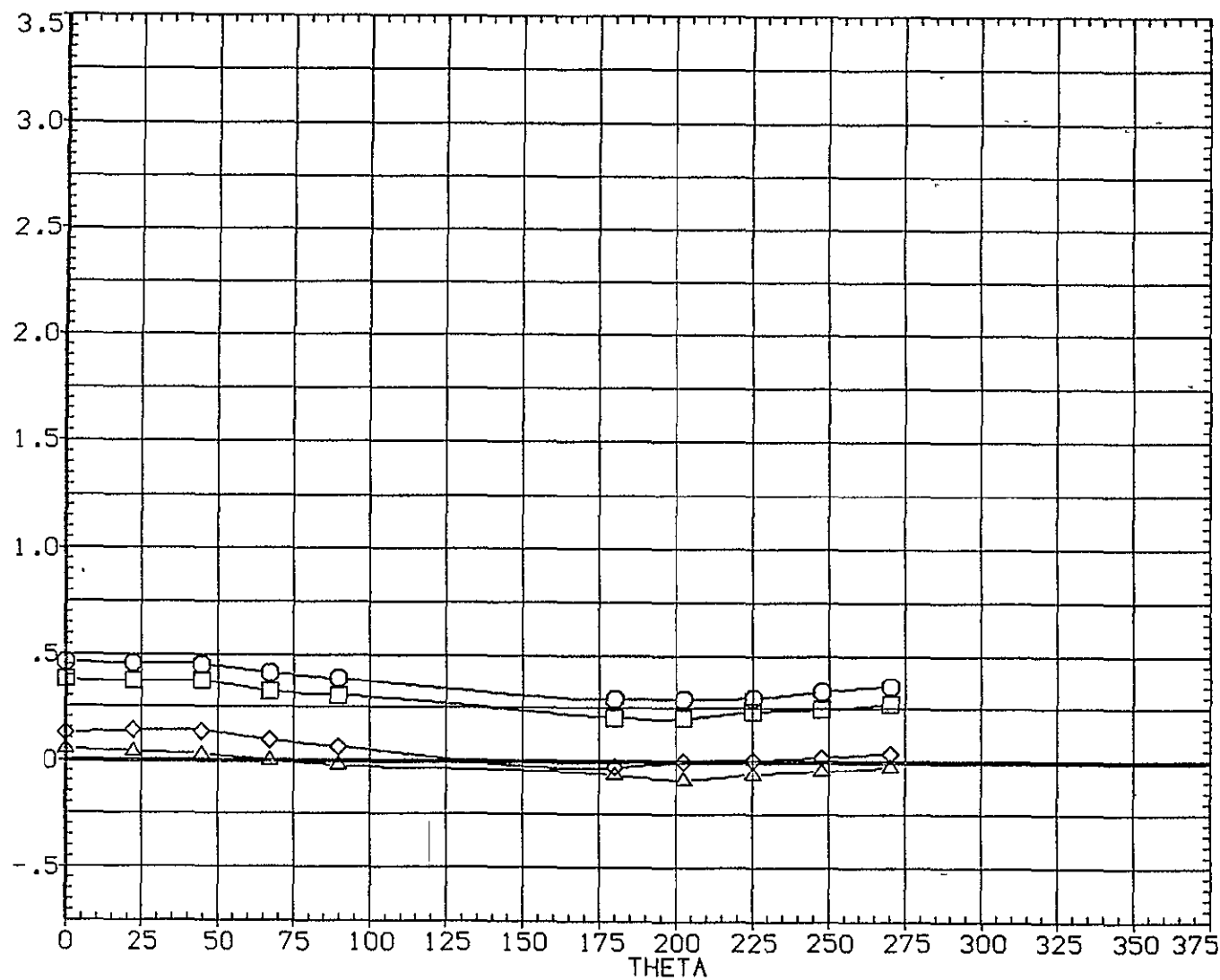
.000

PHI

.000

○  
□  
◇  
△.118  
.131  
.167  
.185

CP

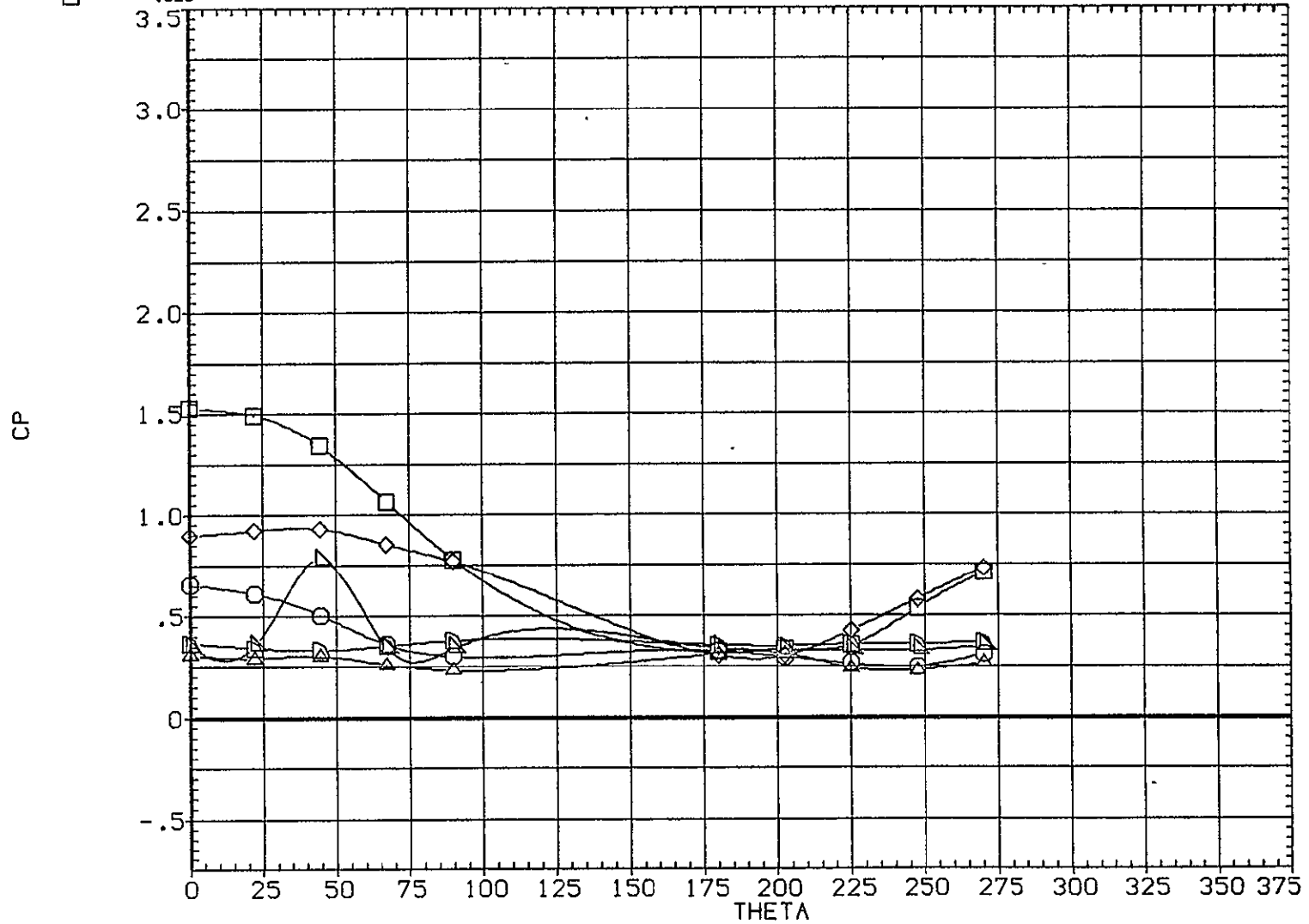


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

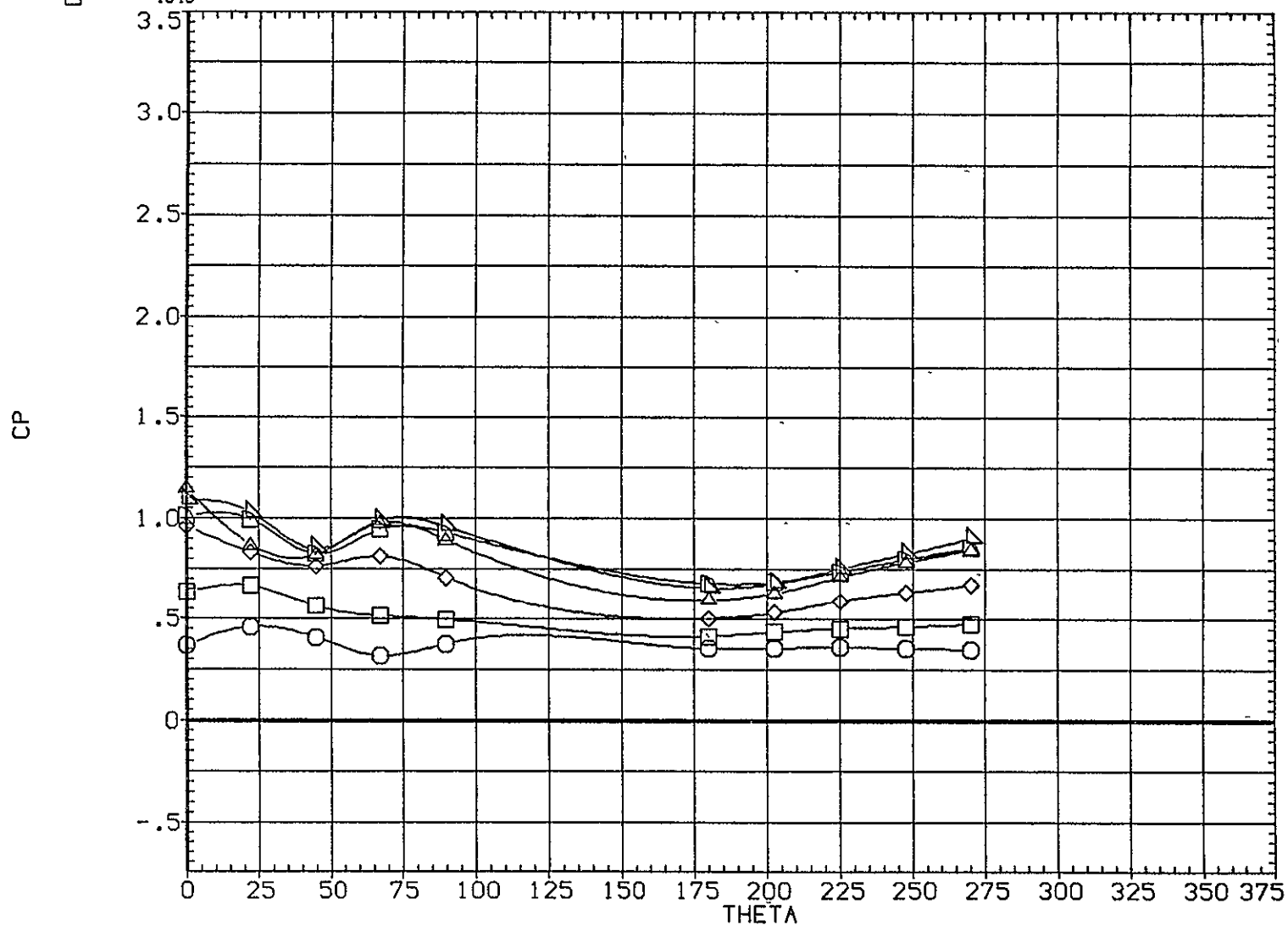
(B1G002)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
□	.016	-4.060	1.966			
◇	.018					
△	.020					
▽	.022					
○	.025					
◻	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	-4.060	1.966			
□	.036					
◇	.039					
△	.041					
▽	.044					
◊	.049					



EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G002)

SYMBOL

X/L

ALPHA  
-4.060

MACH  
1.966

BETA

PARAMETRIC VALUES

.000

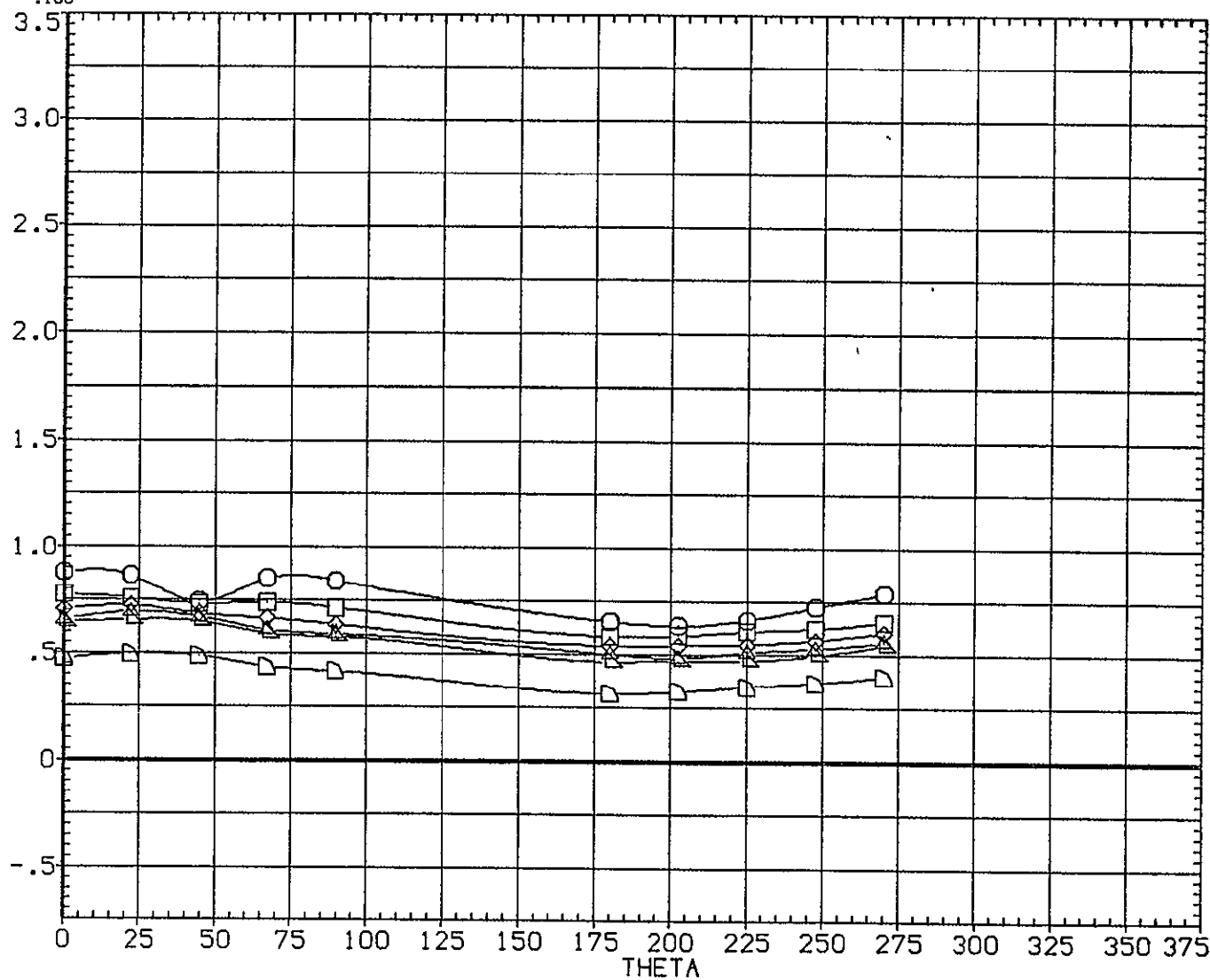
PHI

.000

○  
□  
◇  
△  
▽  
▷

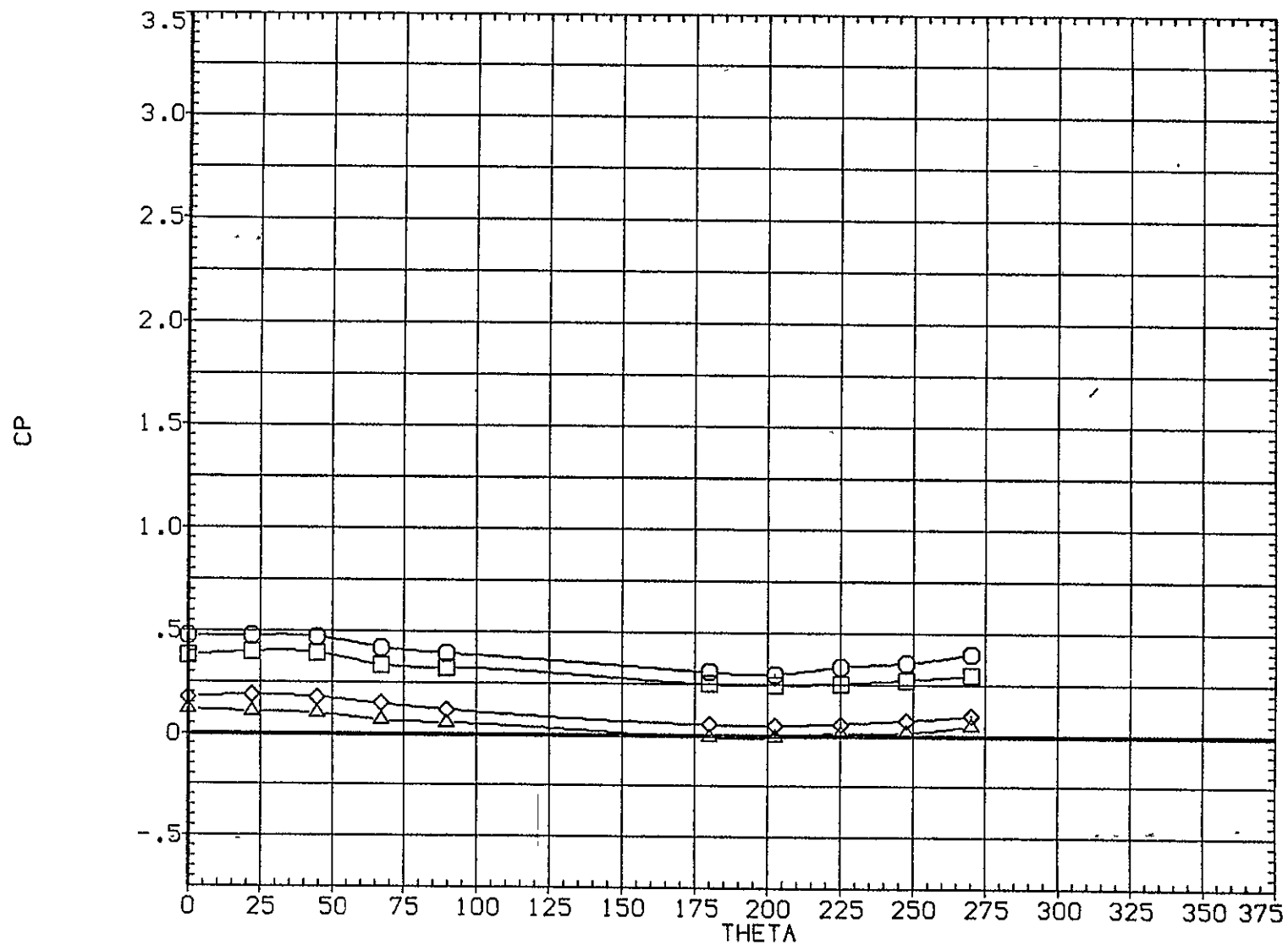
.058  
.068  
.077  
.085  
.093  
.106

CP



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI
○	.118	-4.060	1.966			
□	.131					
◇	.167					
△	.185					

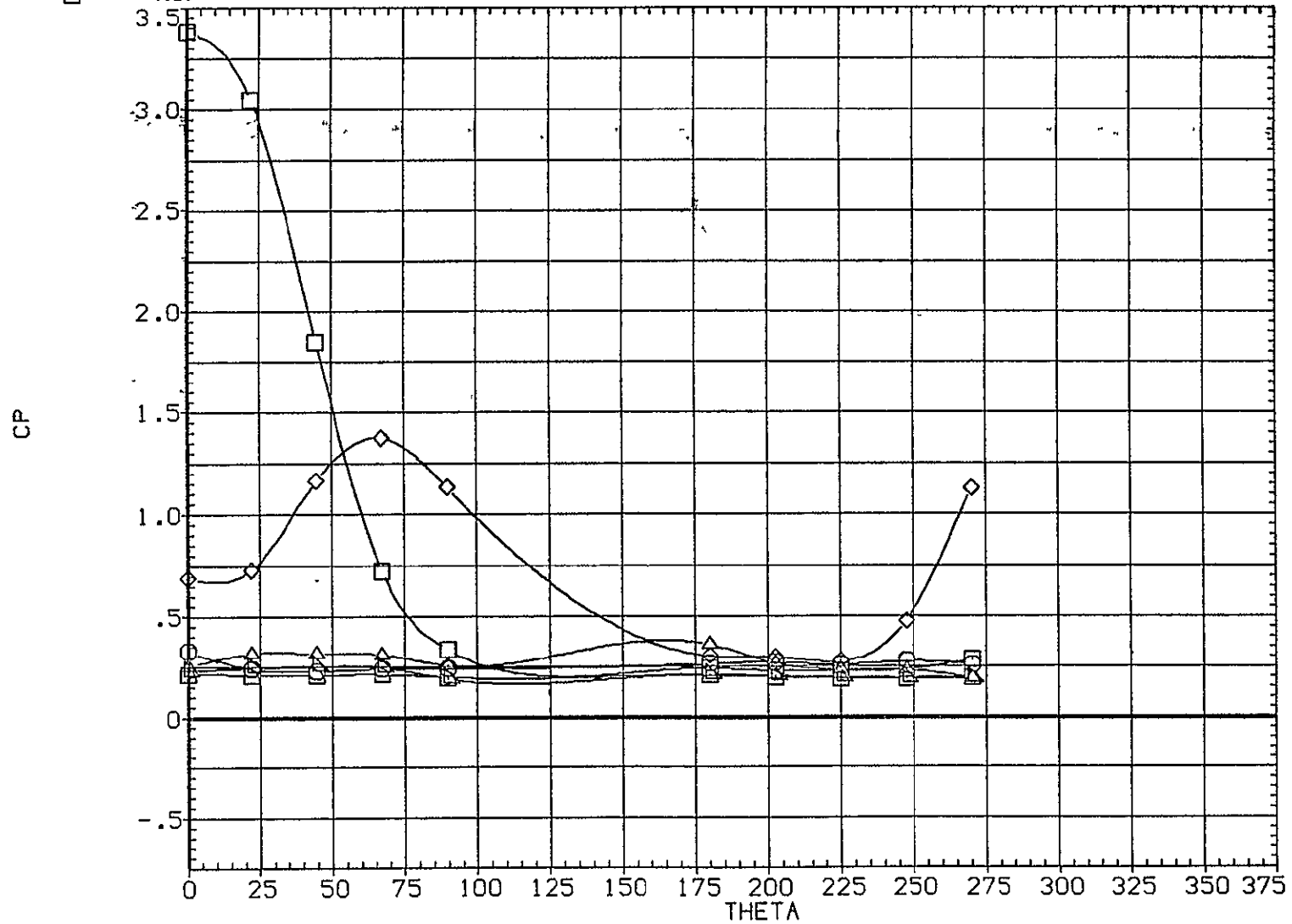


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

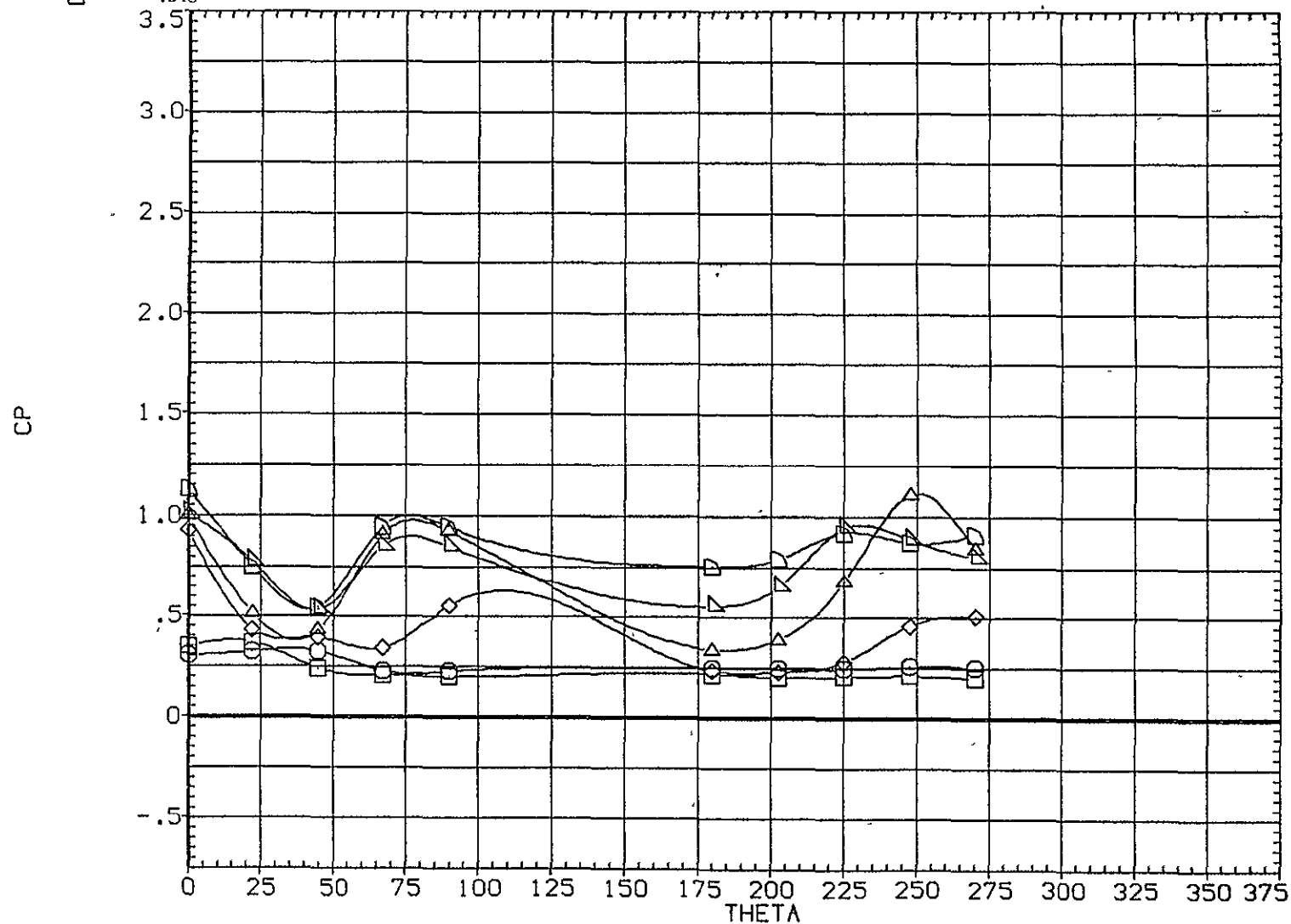
(B1G002)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-4.040	4.960			
□	.018					
◇	.020					
△	.022					
▽	.025					
◊	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.000
□	.030	-4.040	4.960				
◇	.036						
△	.039						
▽	.041						
○	.044						
◇	.049						

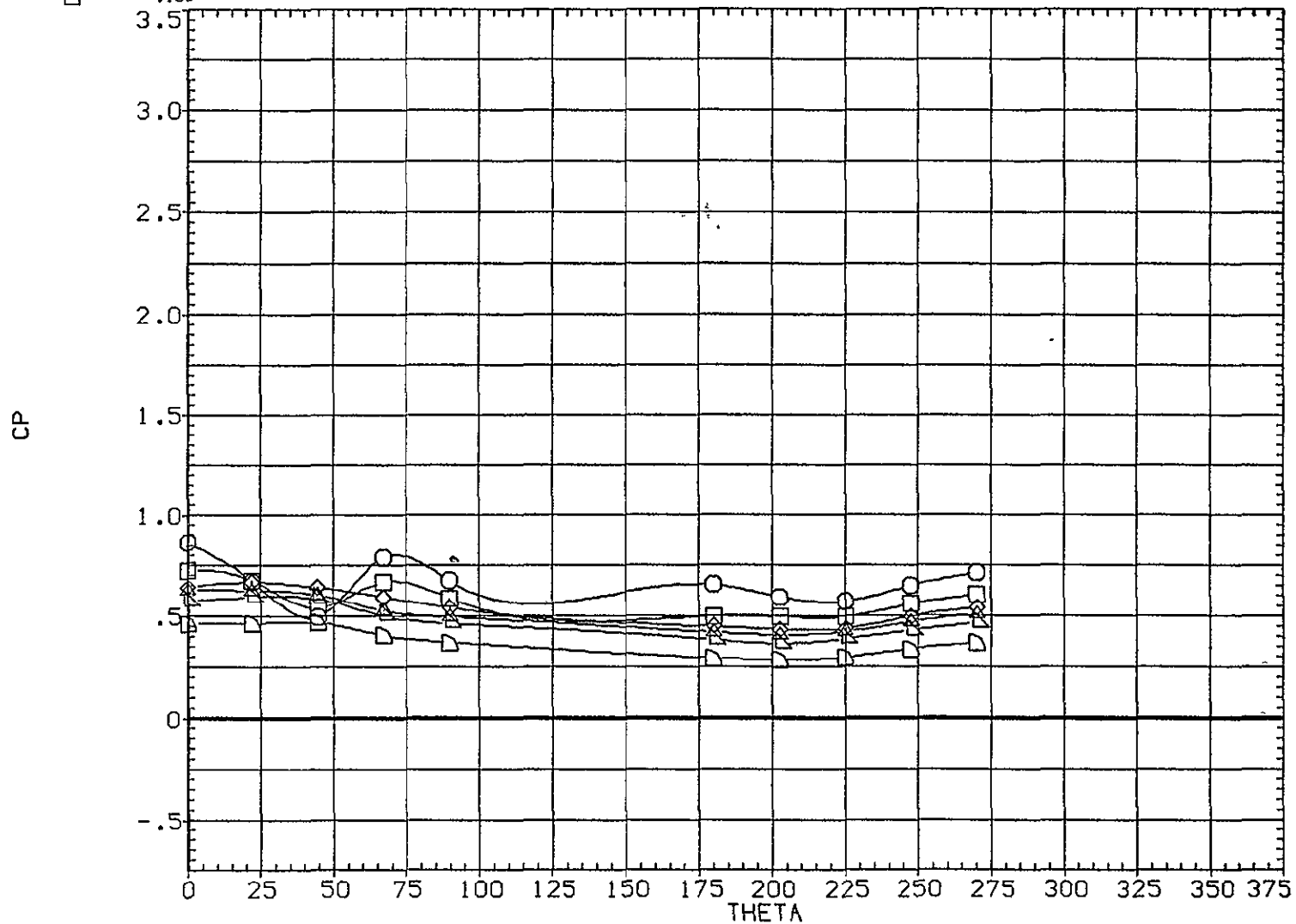


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

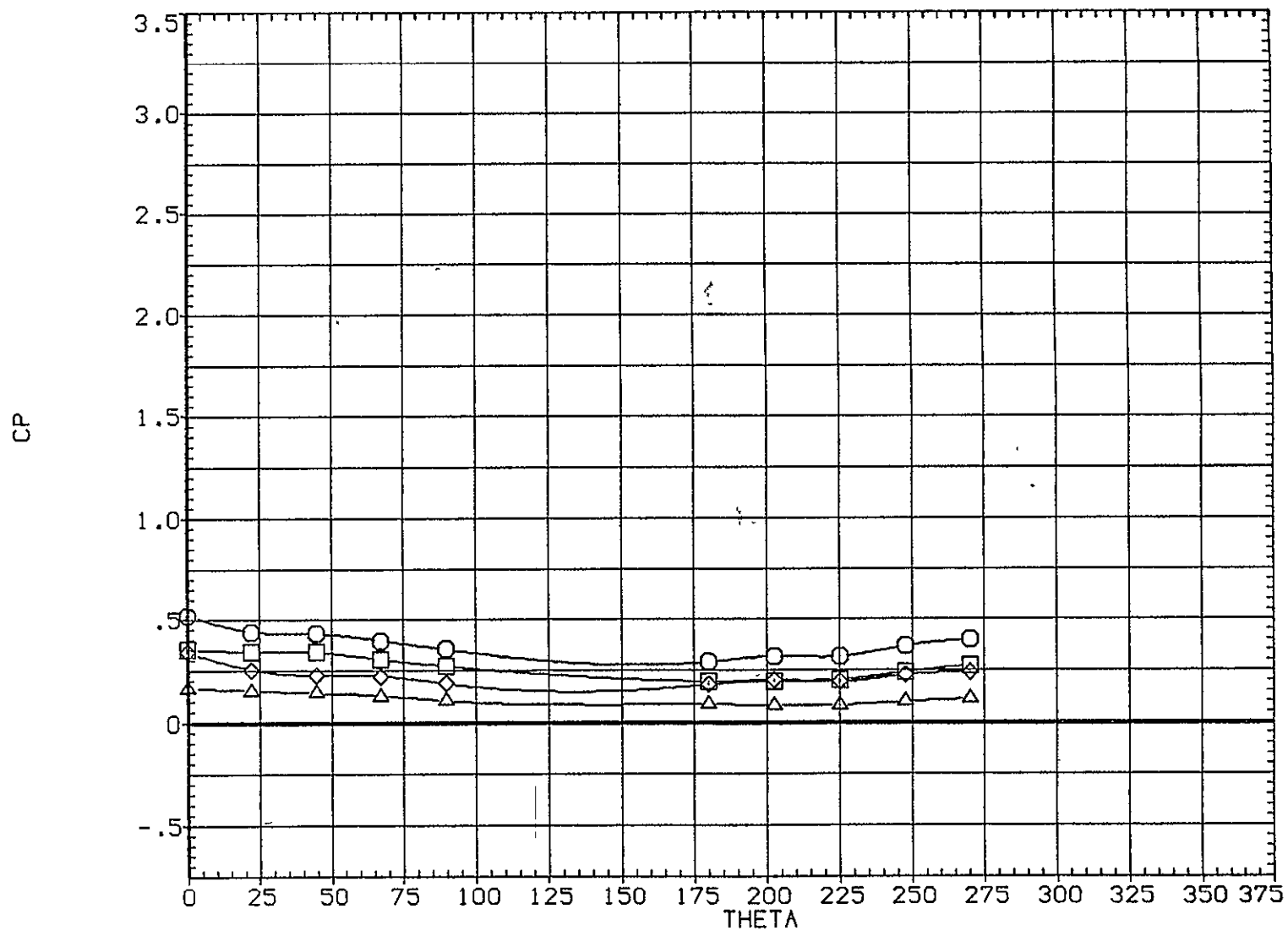
(B1G002)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-4.040	4.960			
□	.068					
◇	.077					
△	.085					
▽	.093					
◻	.108					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	-4.040	4.960		.000	
□	.131					
◇	.167					
△	.185					

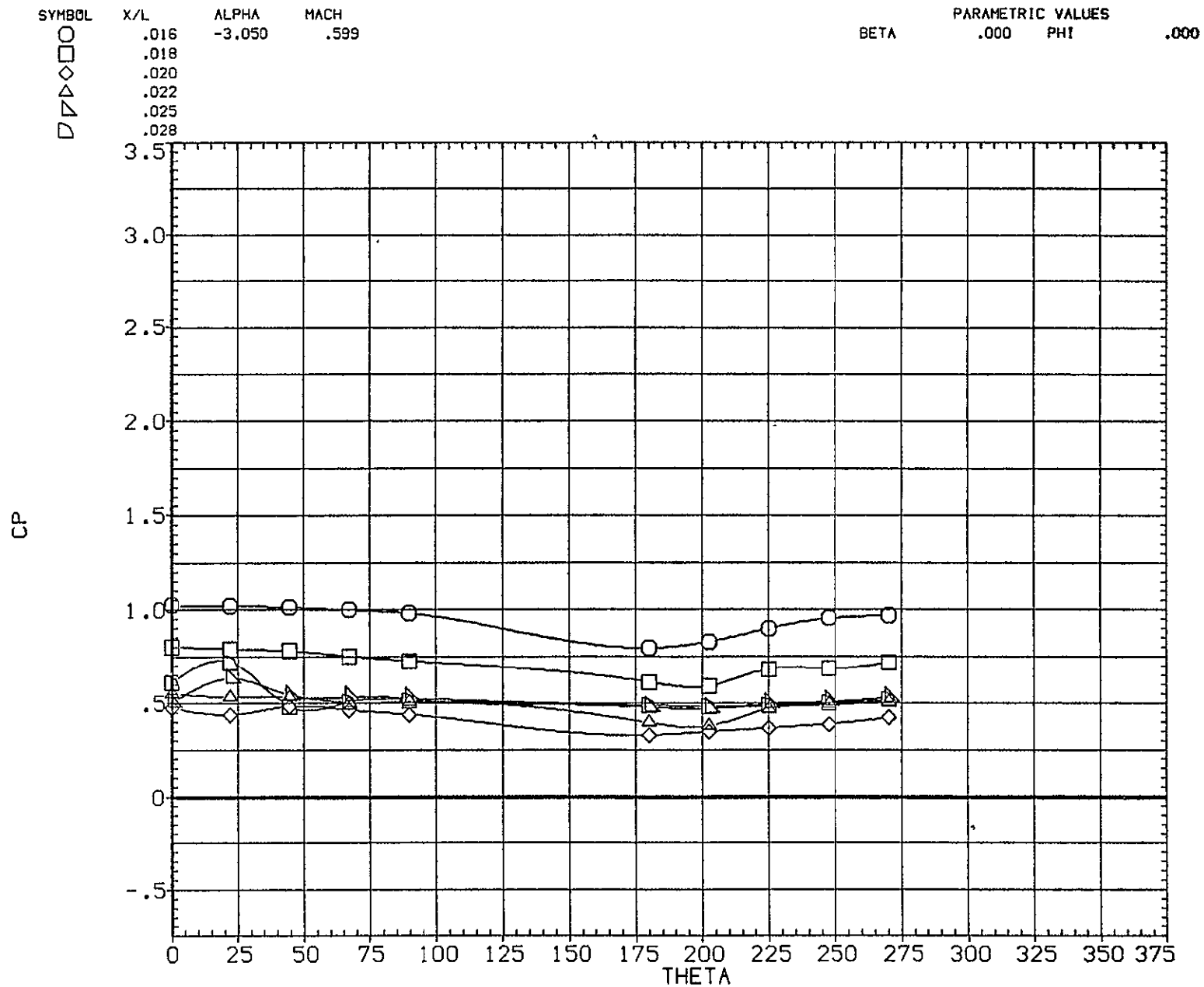


EFFECT OF RADIAL LOCATION ON PRESSURE

C.2

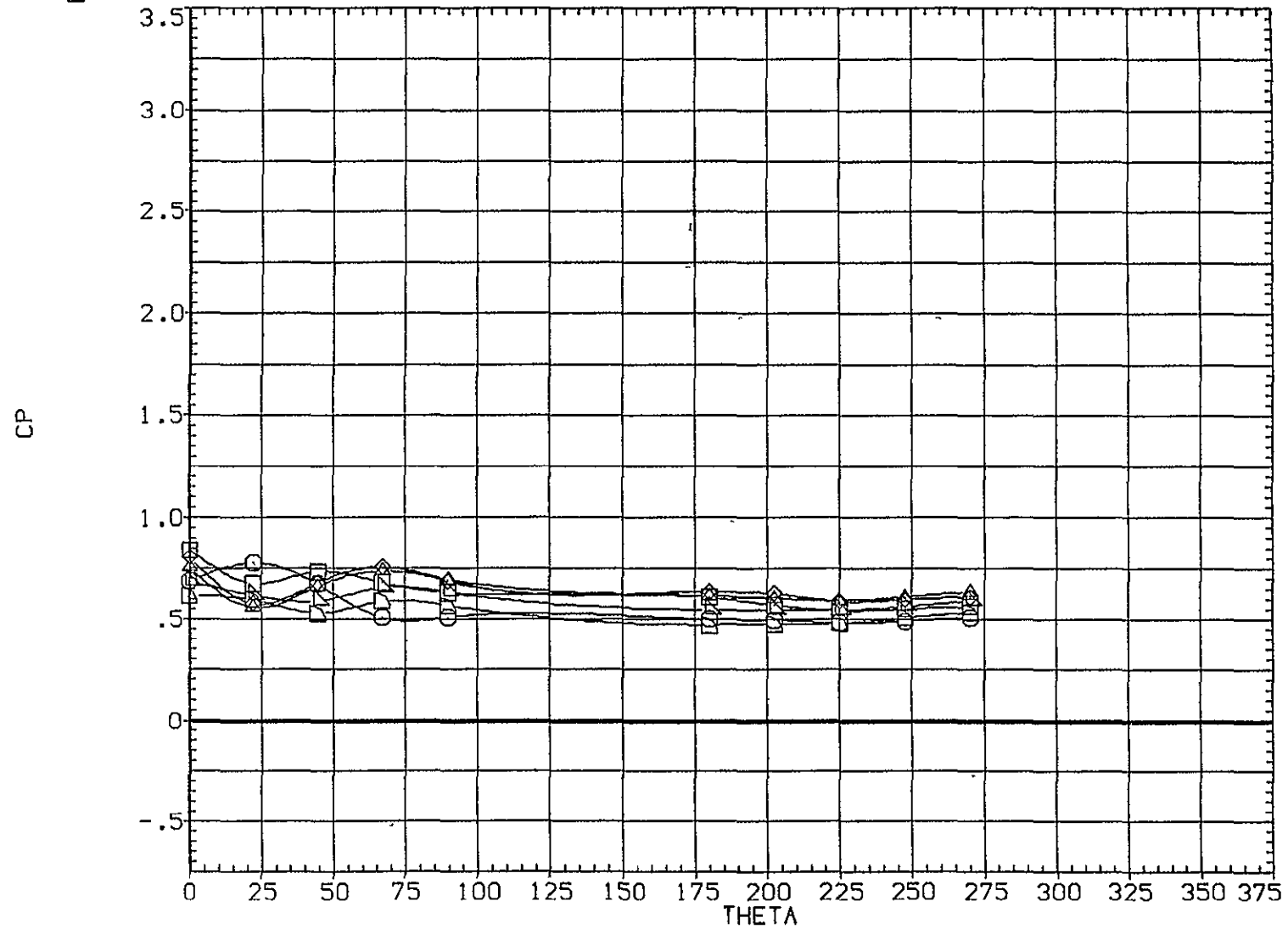
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G003)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI
○	.030	-3.050	.599		.000	.00
□	.036					
◇	.039					
△	.041					
▽	.044					
D	.049					



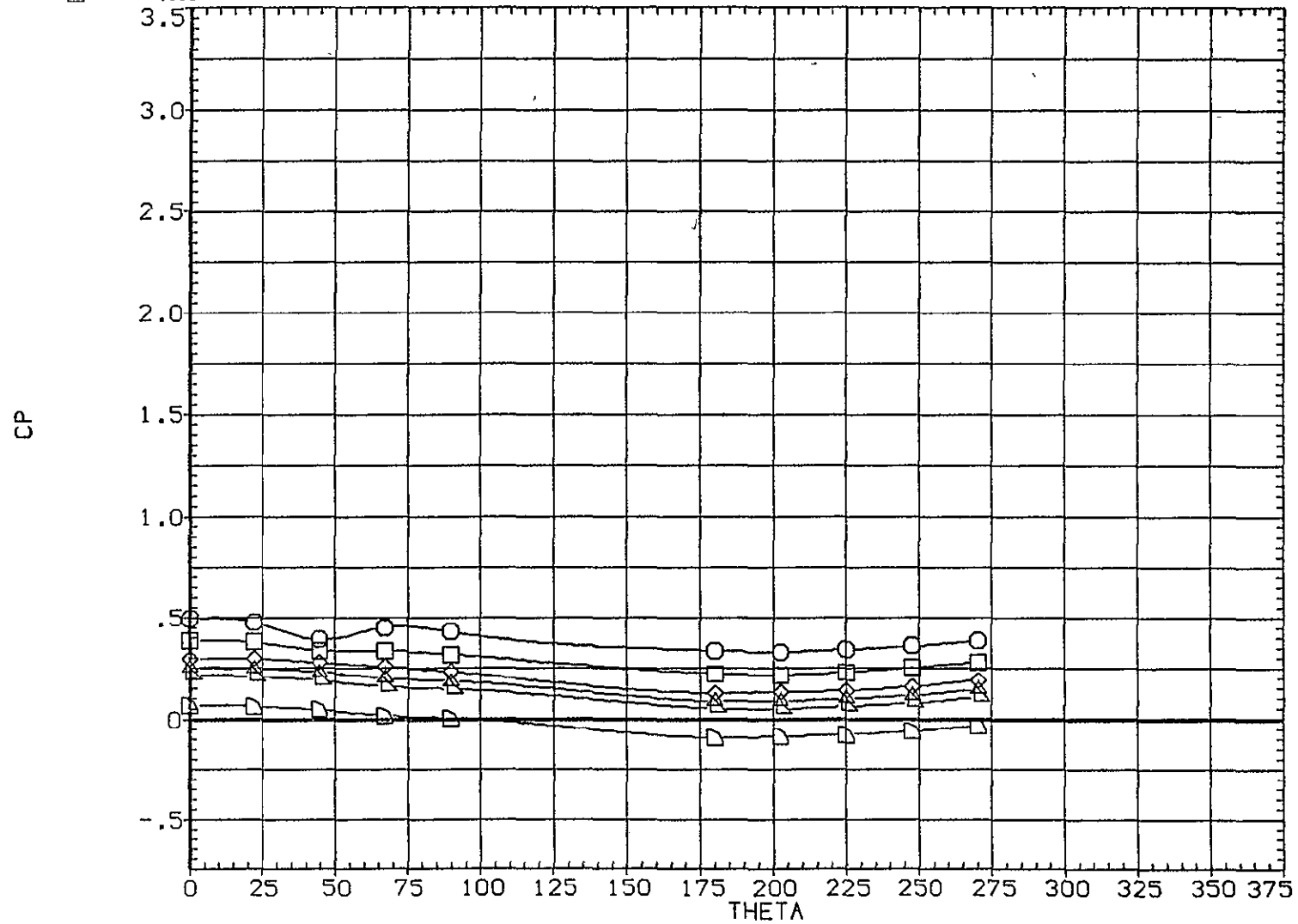
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

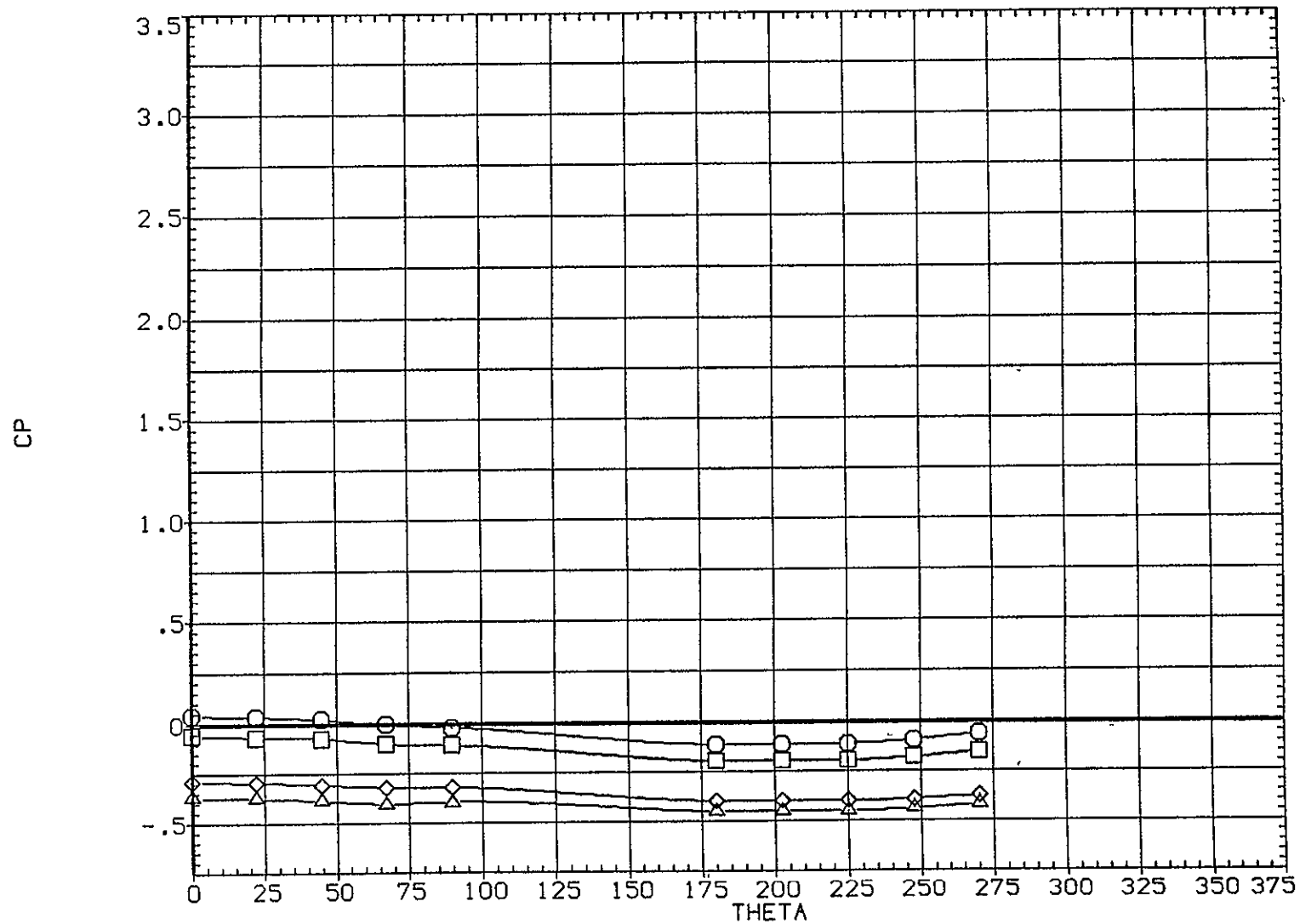
(B1G003)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-3.050	.599			
□	.068					
◇	.077					
△	.085					
▽	.093					
◻	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	-3 050	.599		.000		.000
□	.131						
◇	.167						
△	.185						

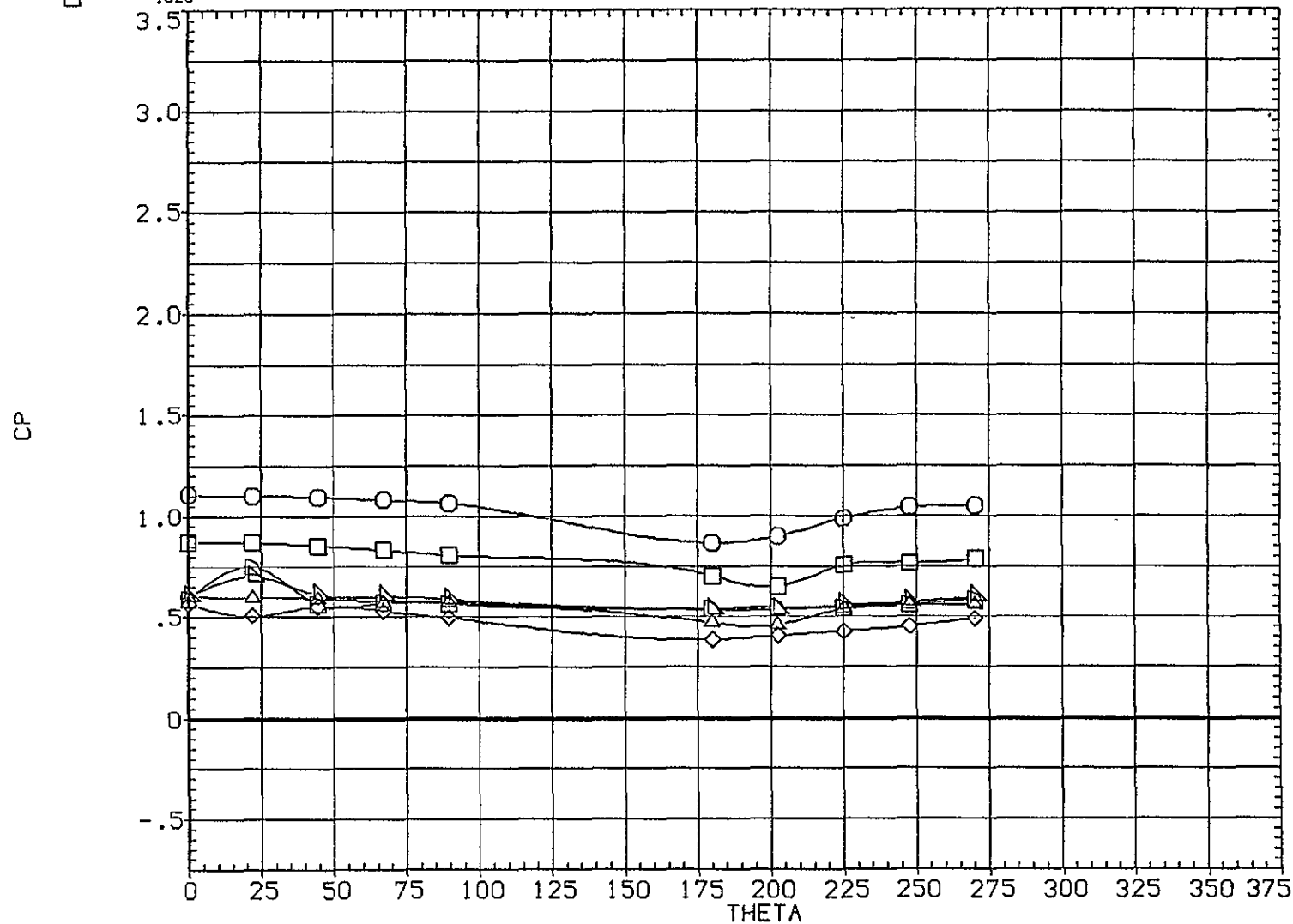


EFFECT OF RADIAL LOCATION ON PRESSURE

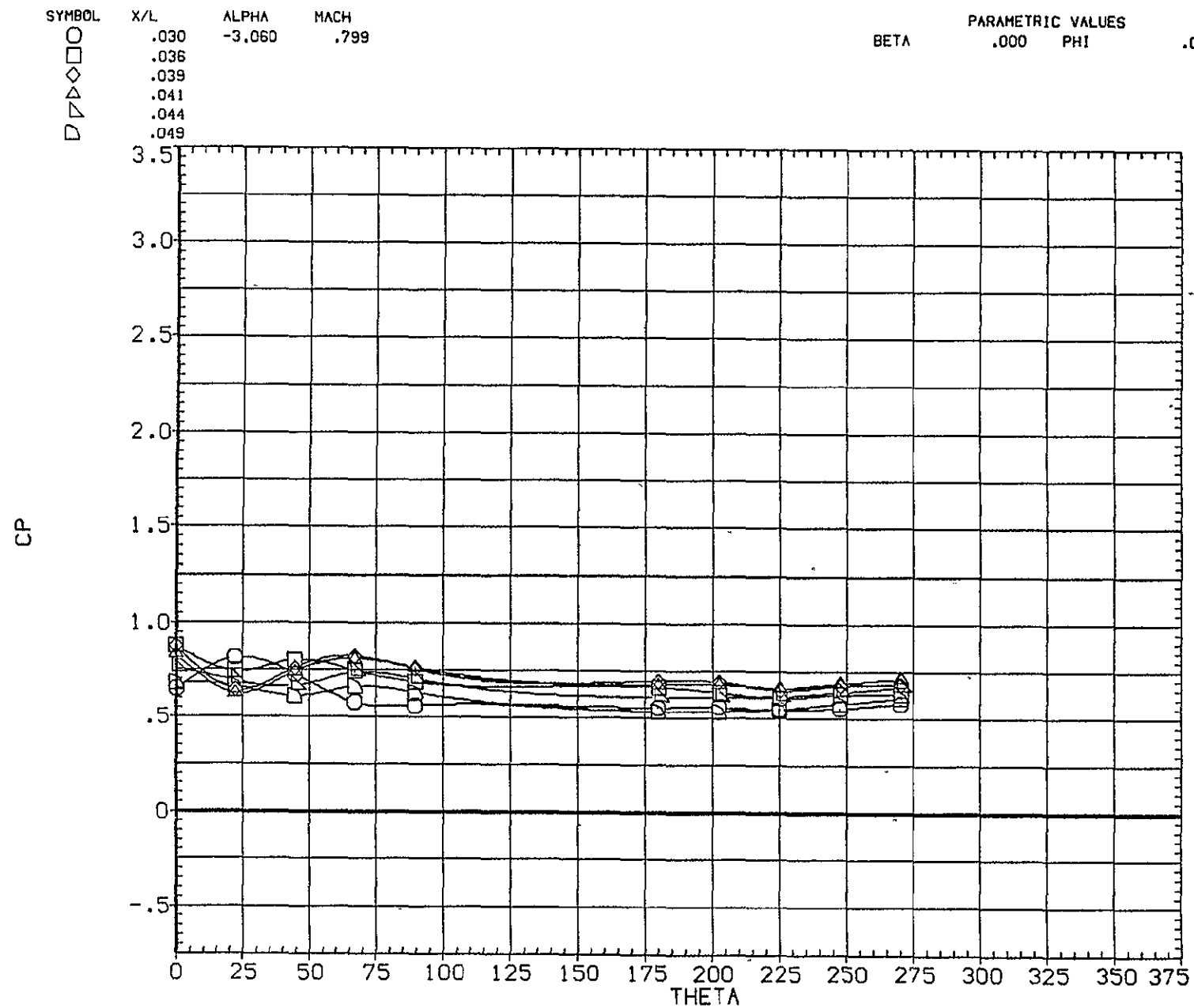
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G003)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-3.060	.799			
□	.018					
◇	.020					
△	.022					
▽	.025					
◇	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

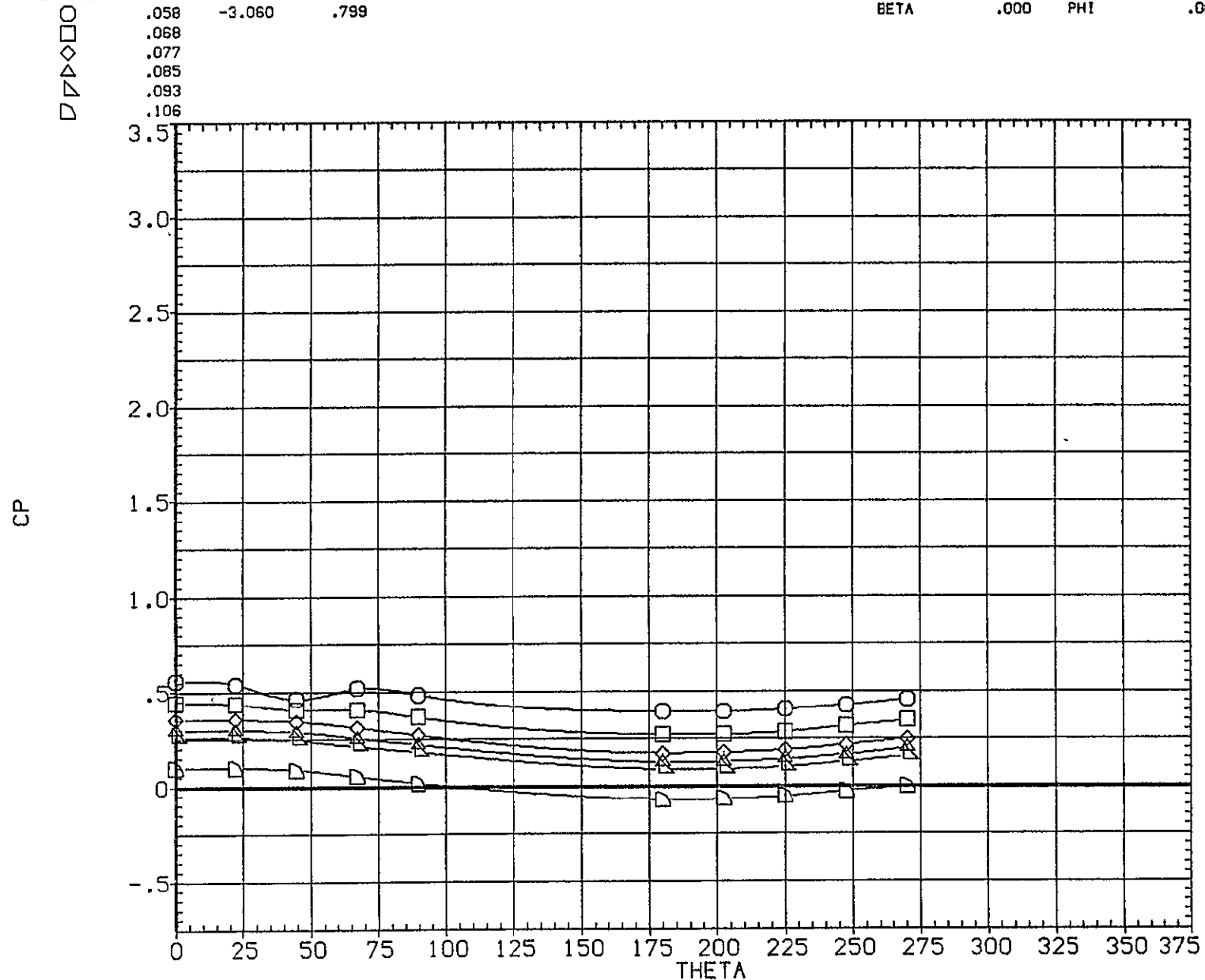


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

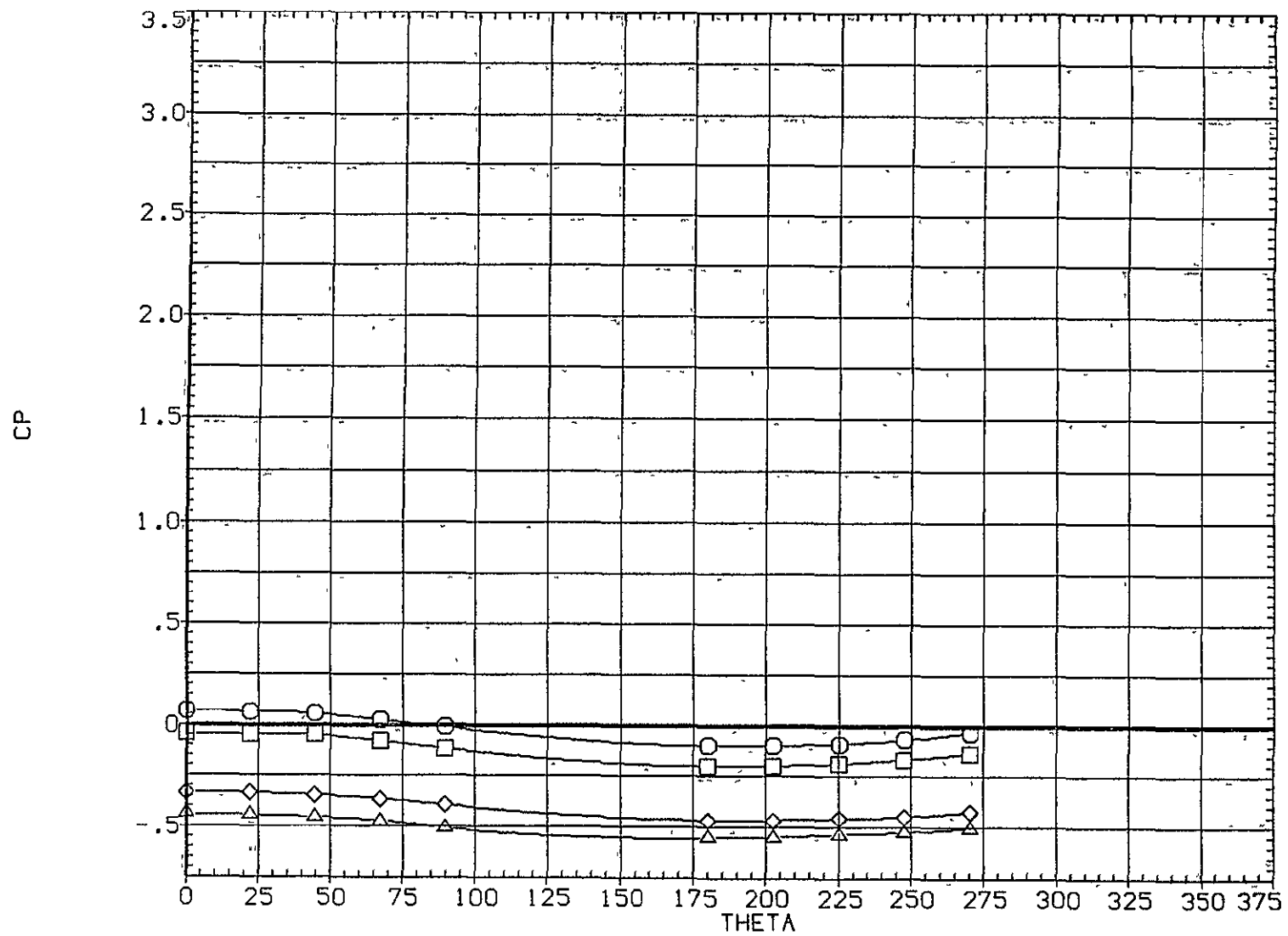
(B1G003)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
	.058	-3.060	.799		.000		.000



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	0.00
○	.118	-3.060	.799				
□	.131						
◇	.167						
△	.185						

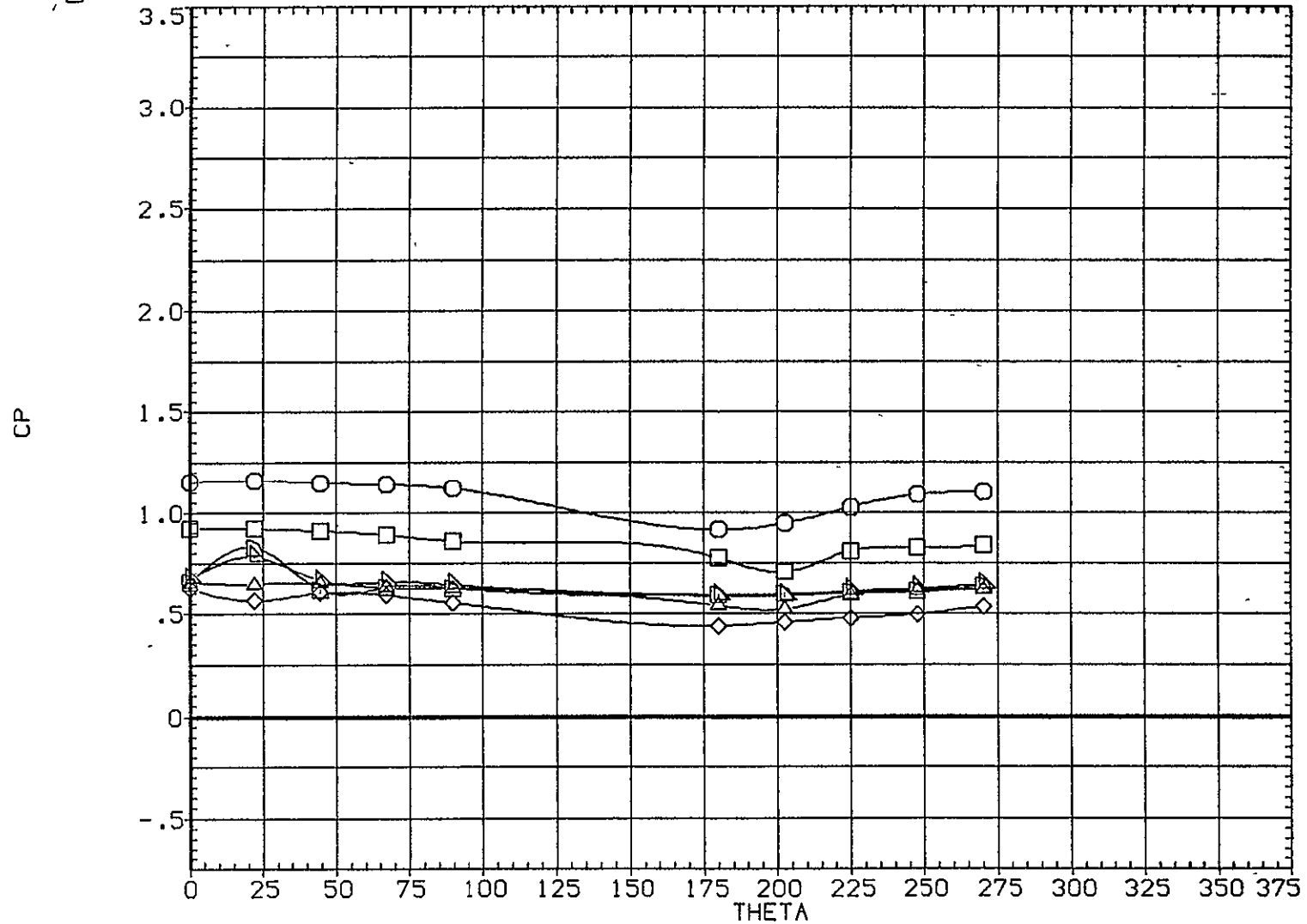


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

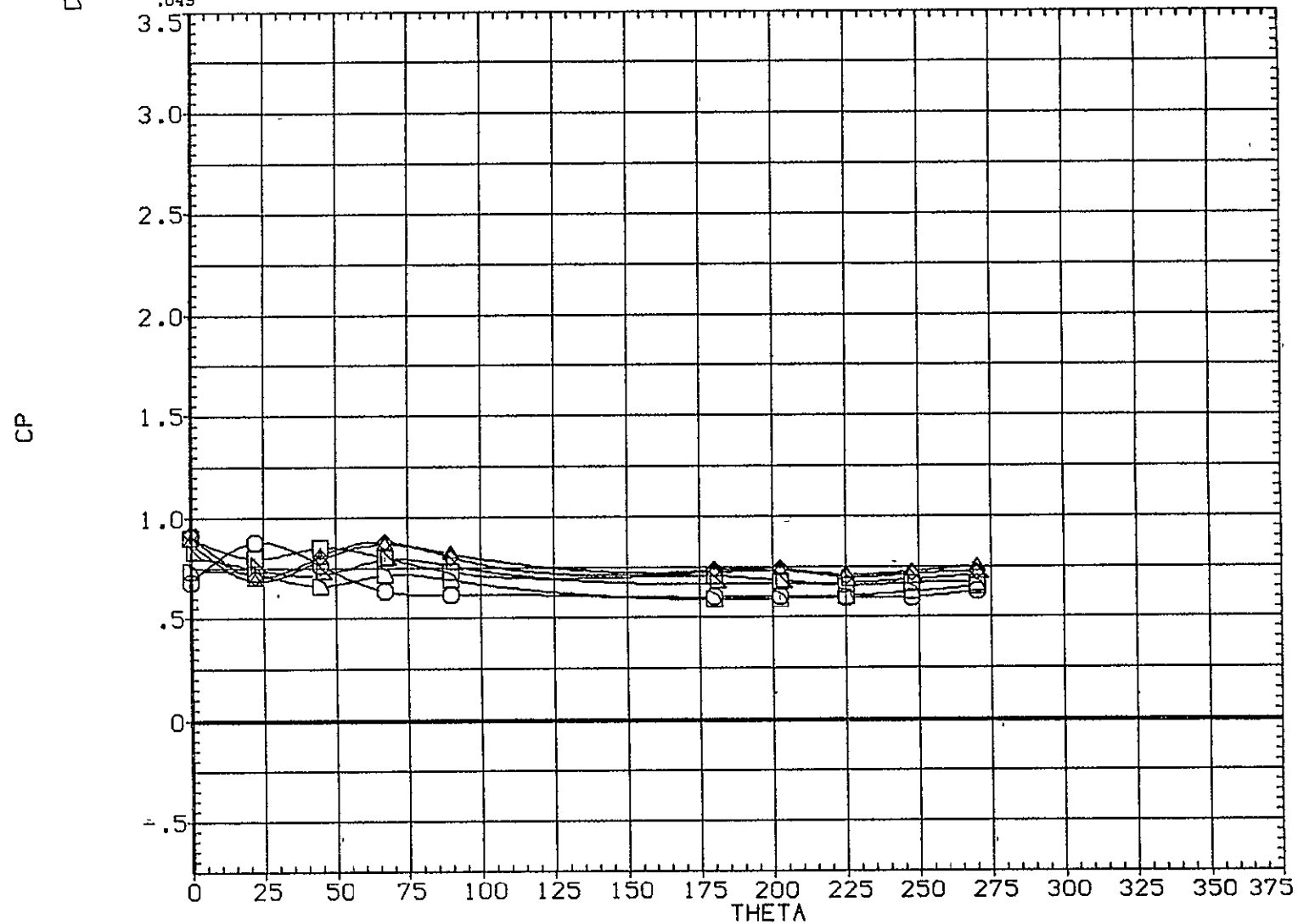
(B1G003)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-3.060	.906			
□	.018					
△	.020					
▽	.022					
◇	.025					
◇	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.030	-3.060	.906		.000		.000°
□	.036						
△	.039						
▽	.041						
◇	.044						
◇	.049						



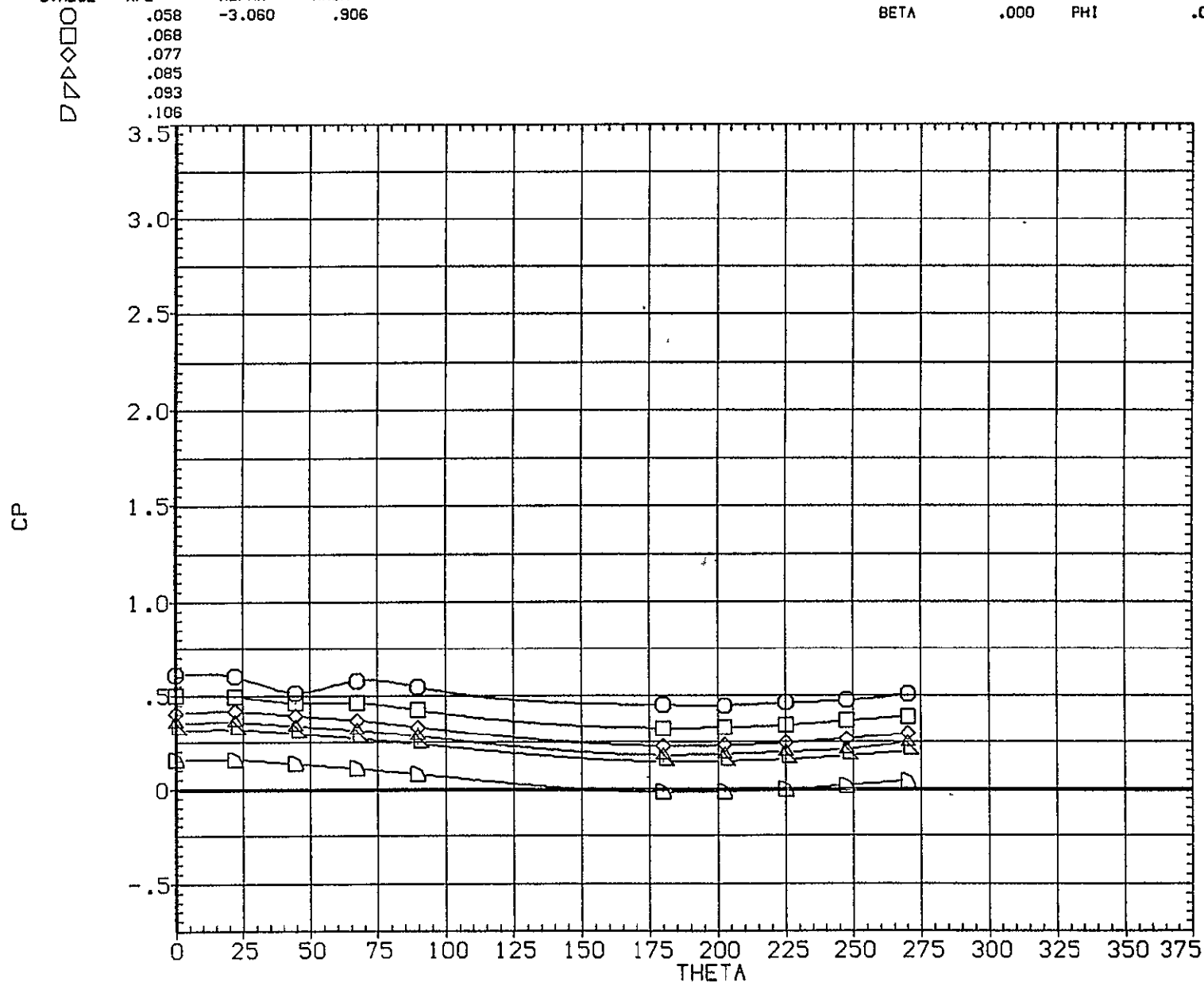
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

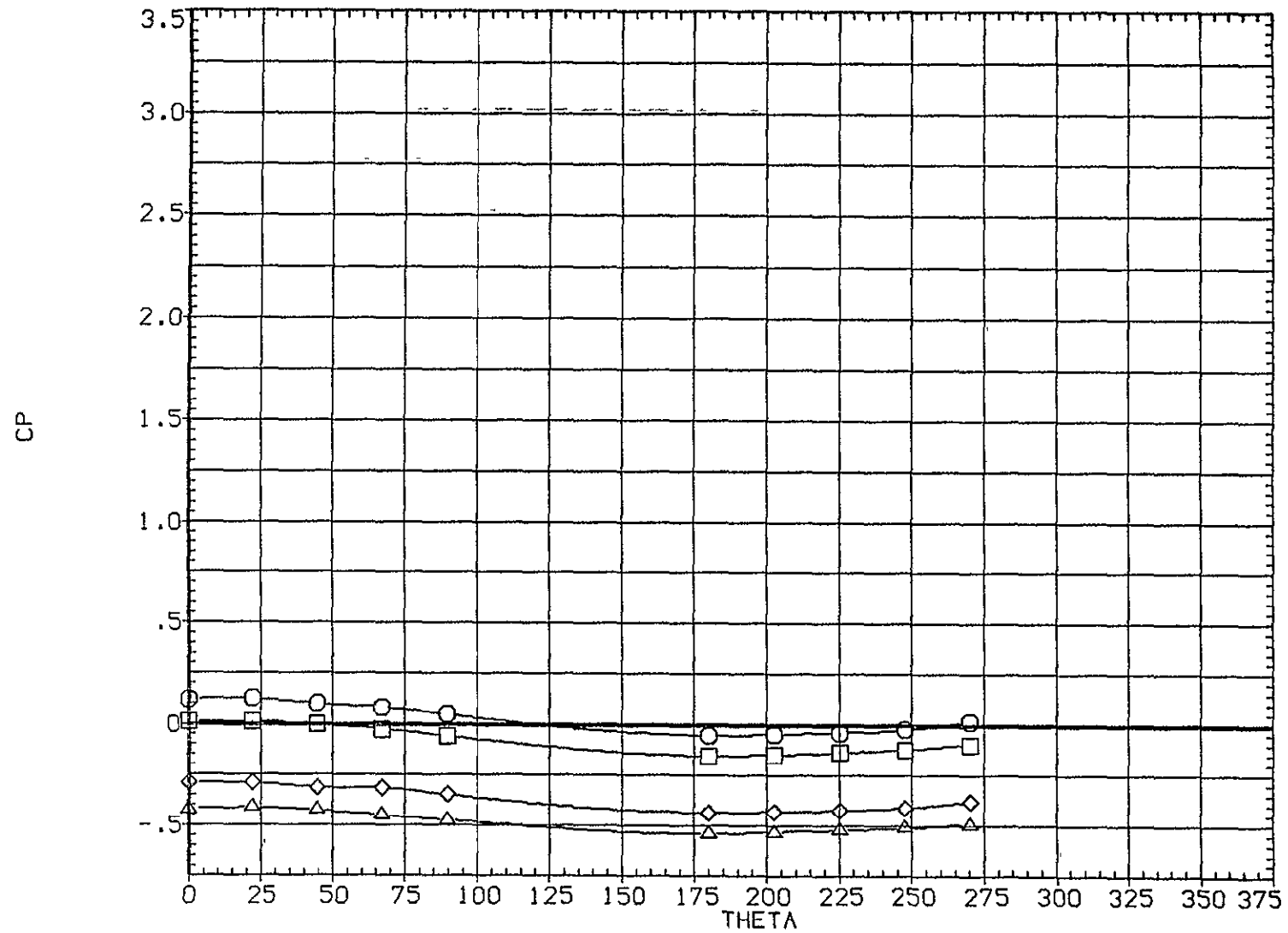
(B16003)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
	.058	-3.060	.906		.000	PHI	.000



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	-3.060	.906		.000		.01
□	.131						
◇	.167						
△	.185						

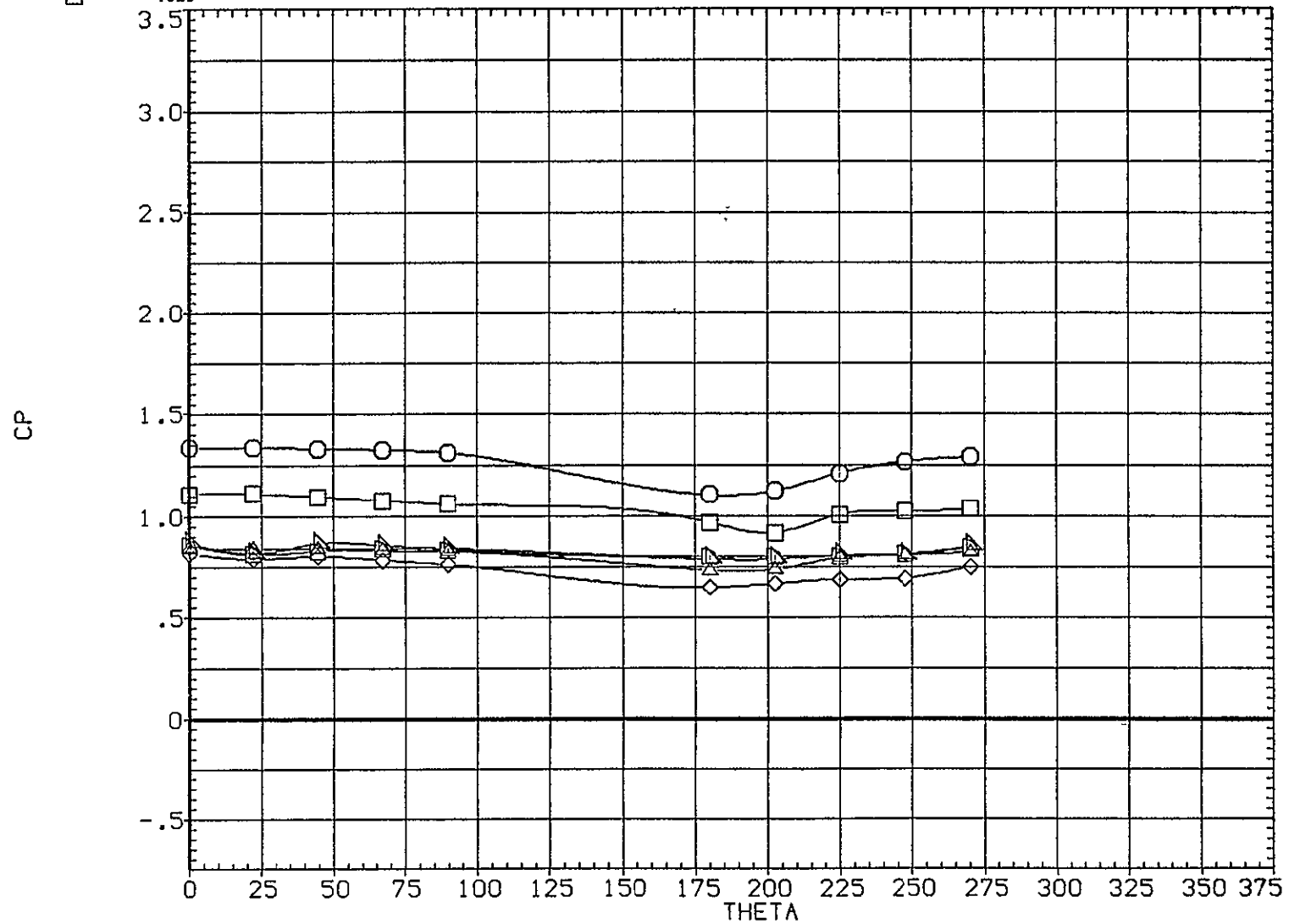


EFFECT OF RADIAL LOCATION ON PRESSURE

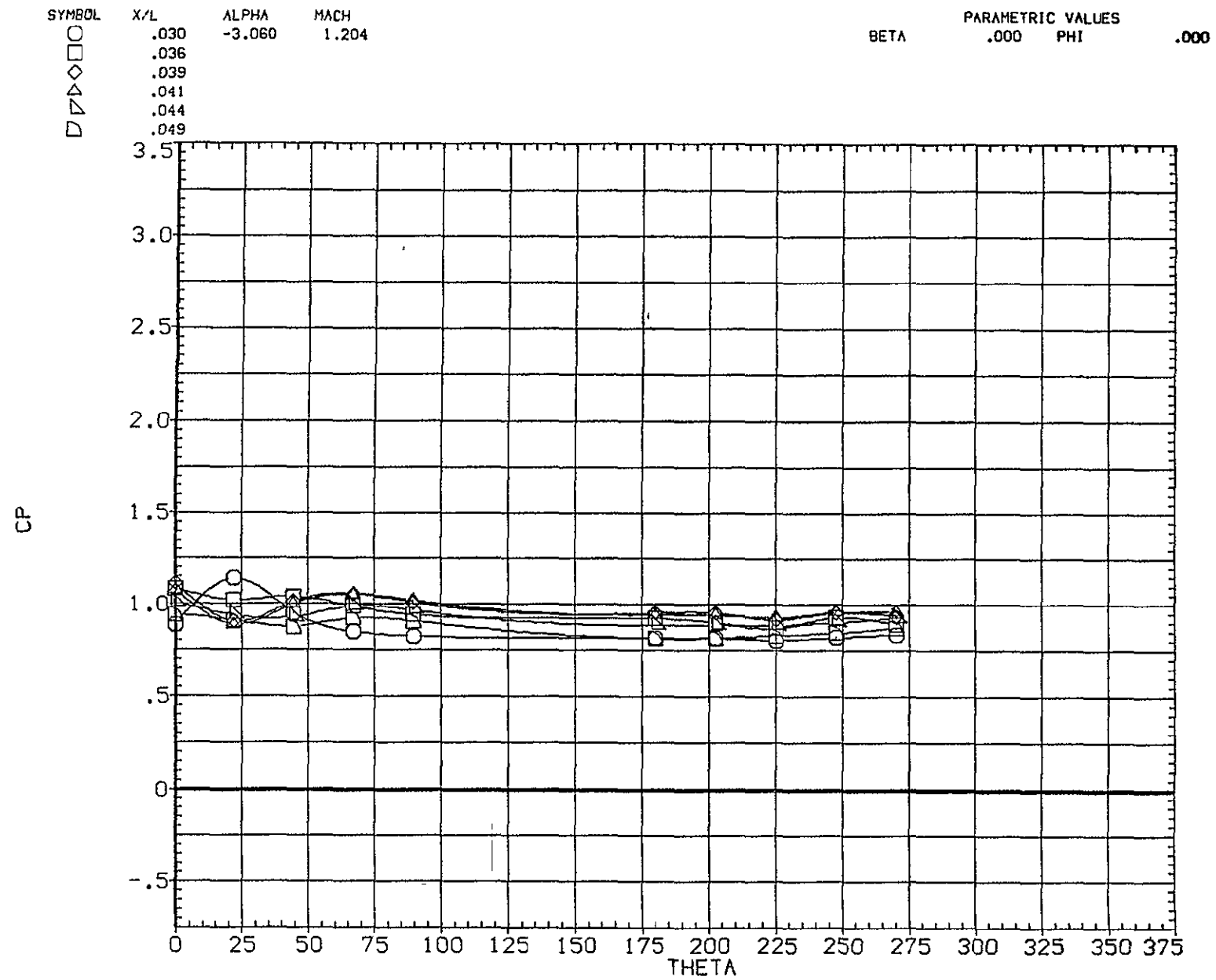
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G003)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES			
				BETA	.000	PHI	.000
○	.016	-3.050	1.204				
□	.018						
◇	.020						
△	.022						
▽	.025						
◊	.028						



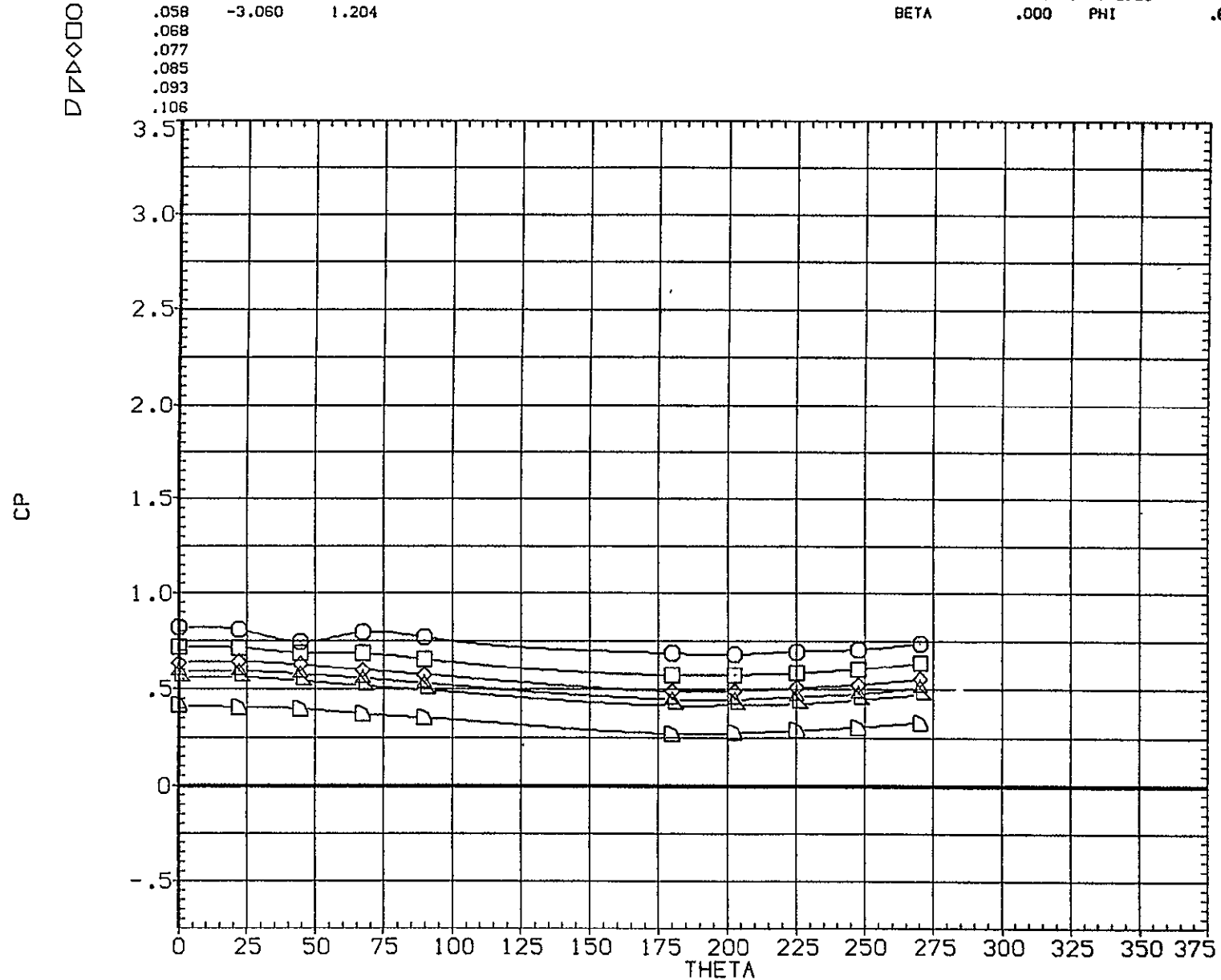
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

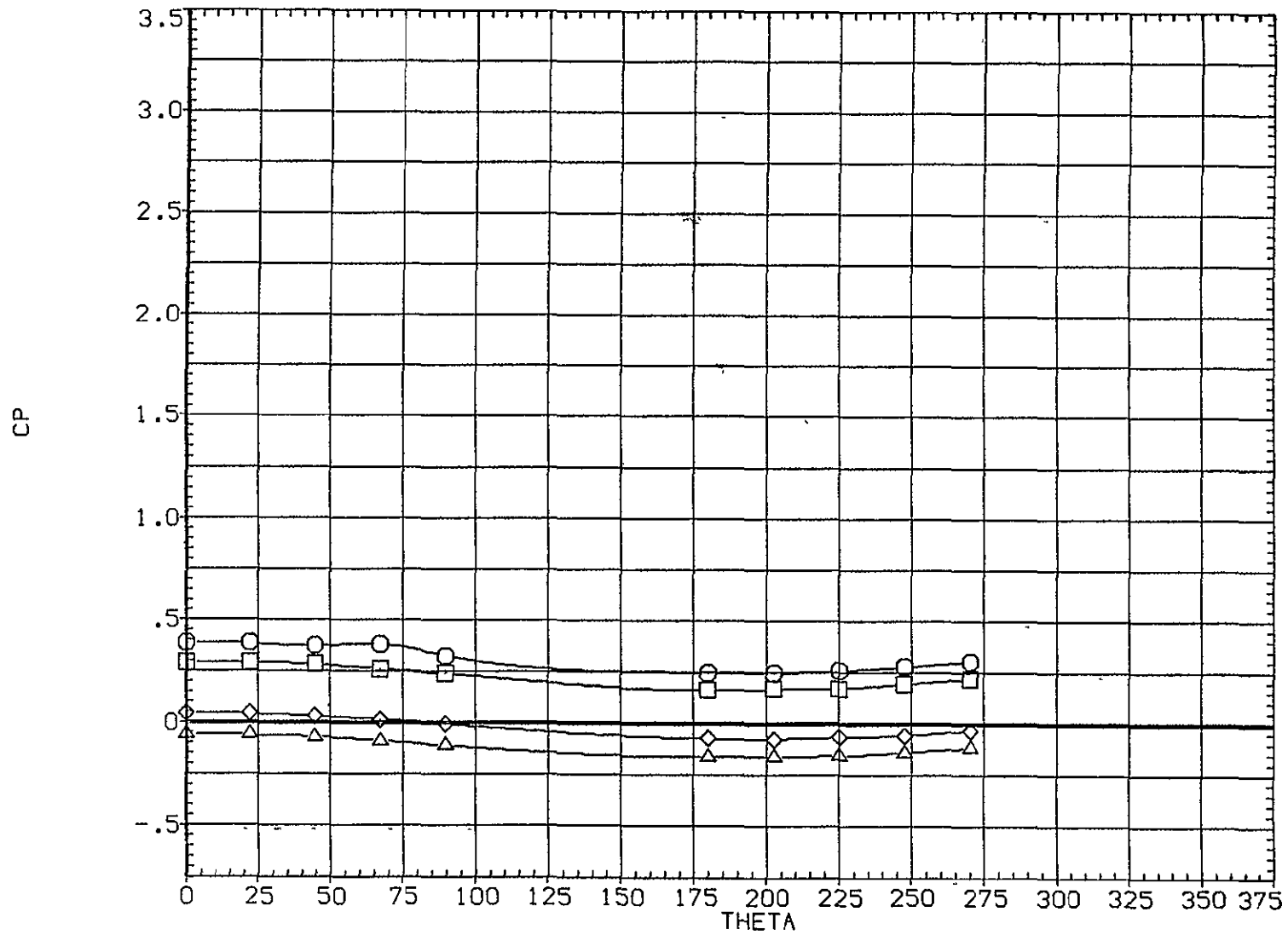
(B1G003)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
	.058	-3.060	1.204		.000	PHI	.000



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	-3.060	1.204			
□	.131					
◇	.167					
△	.185					

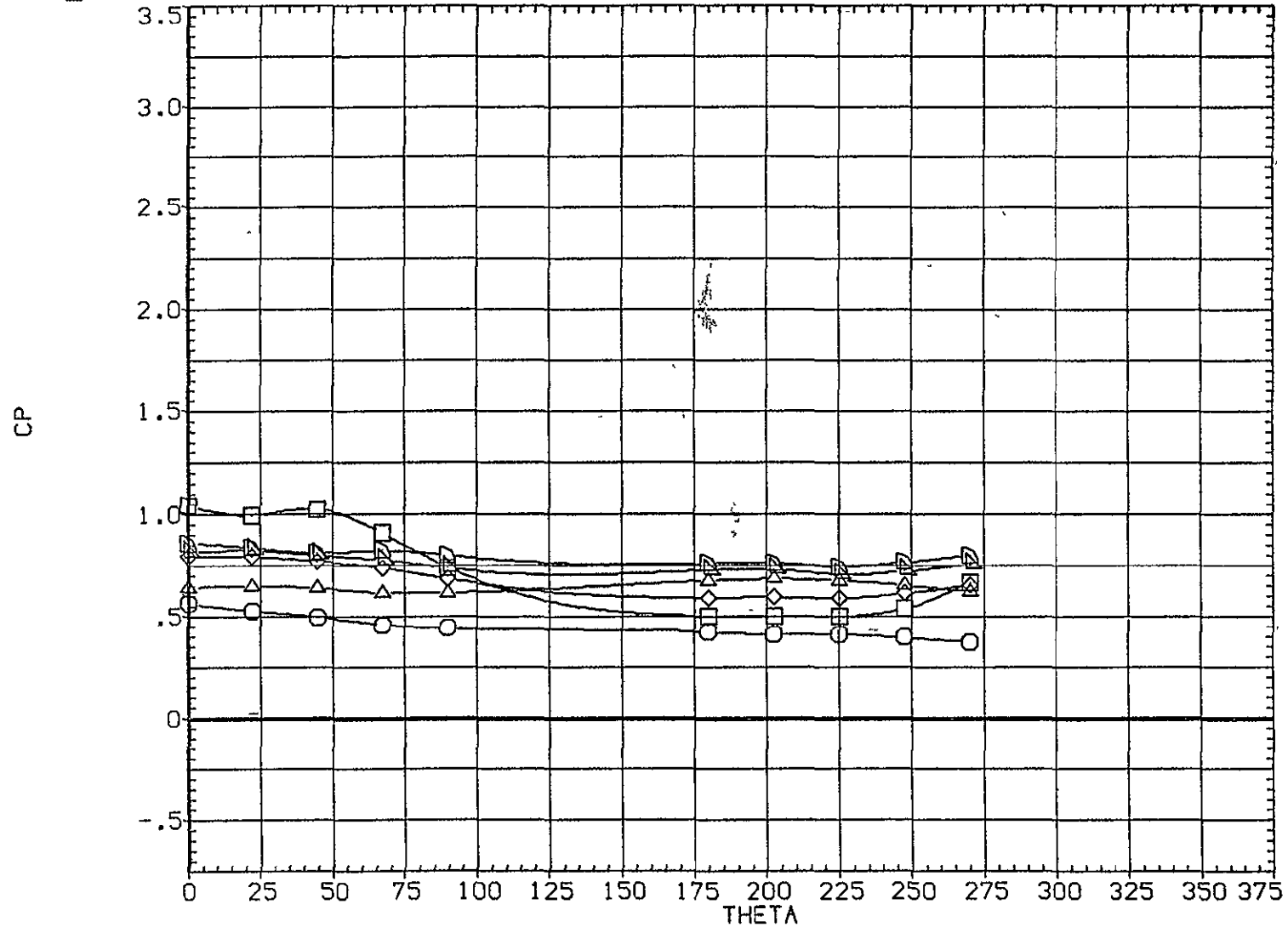


EFFECT OF RADIAL LOCATION ON PRESSURE

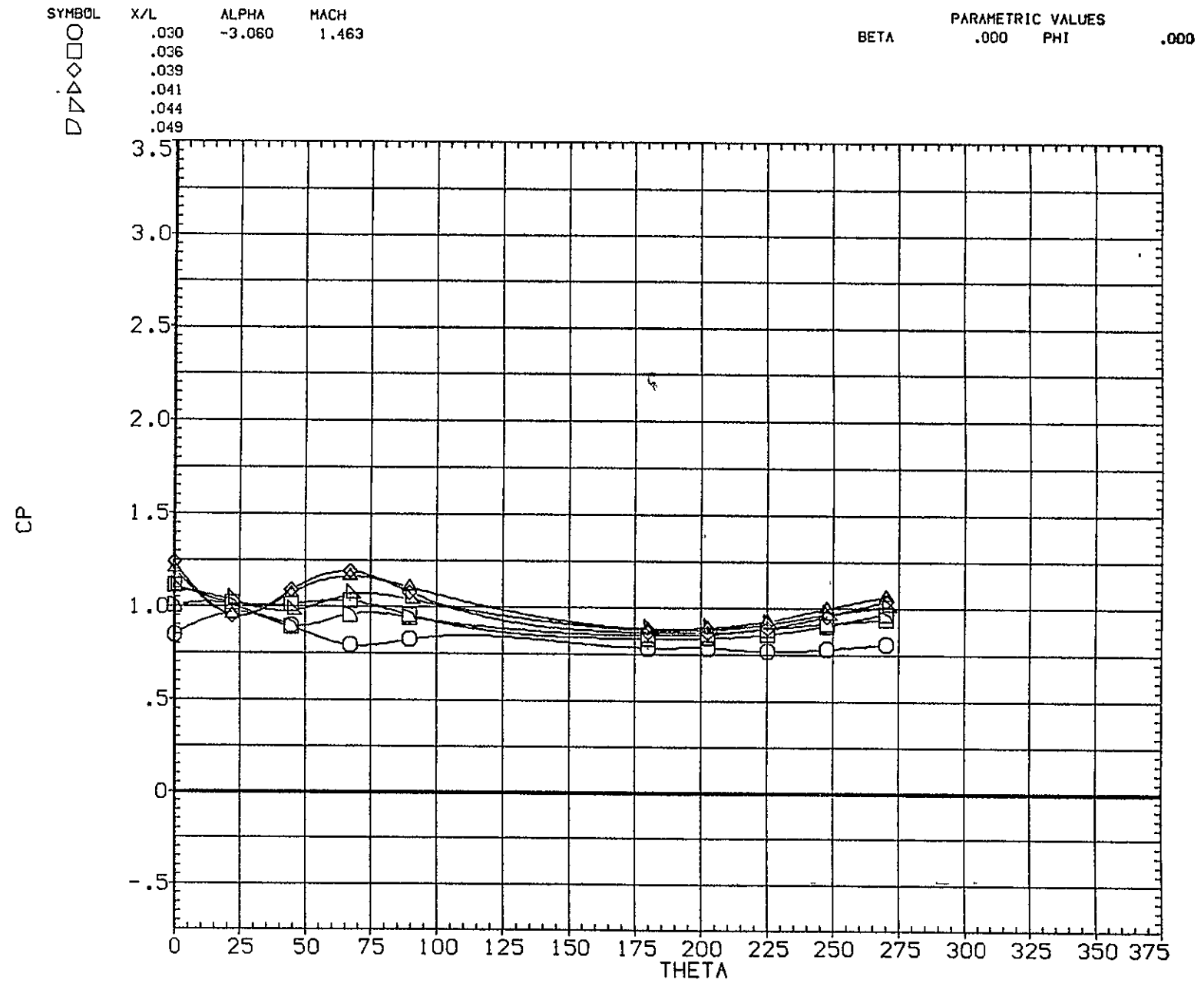
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G003)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-3.050	1.463			
□	.018					
◇	.020					
△	.022					
▽	.025					
◁	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE



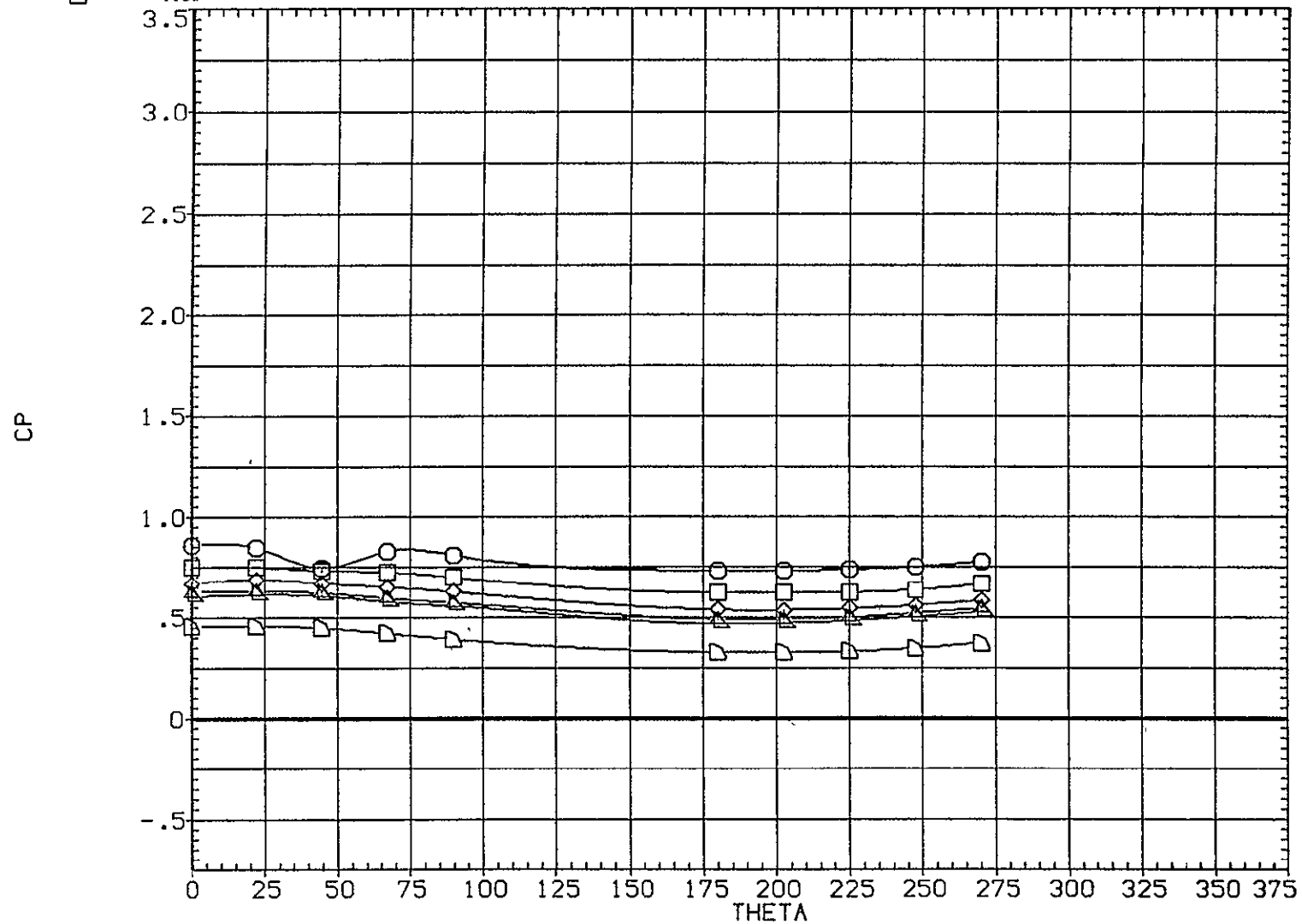
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

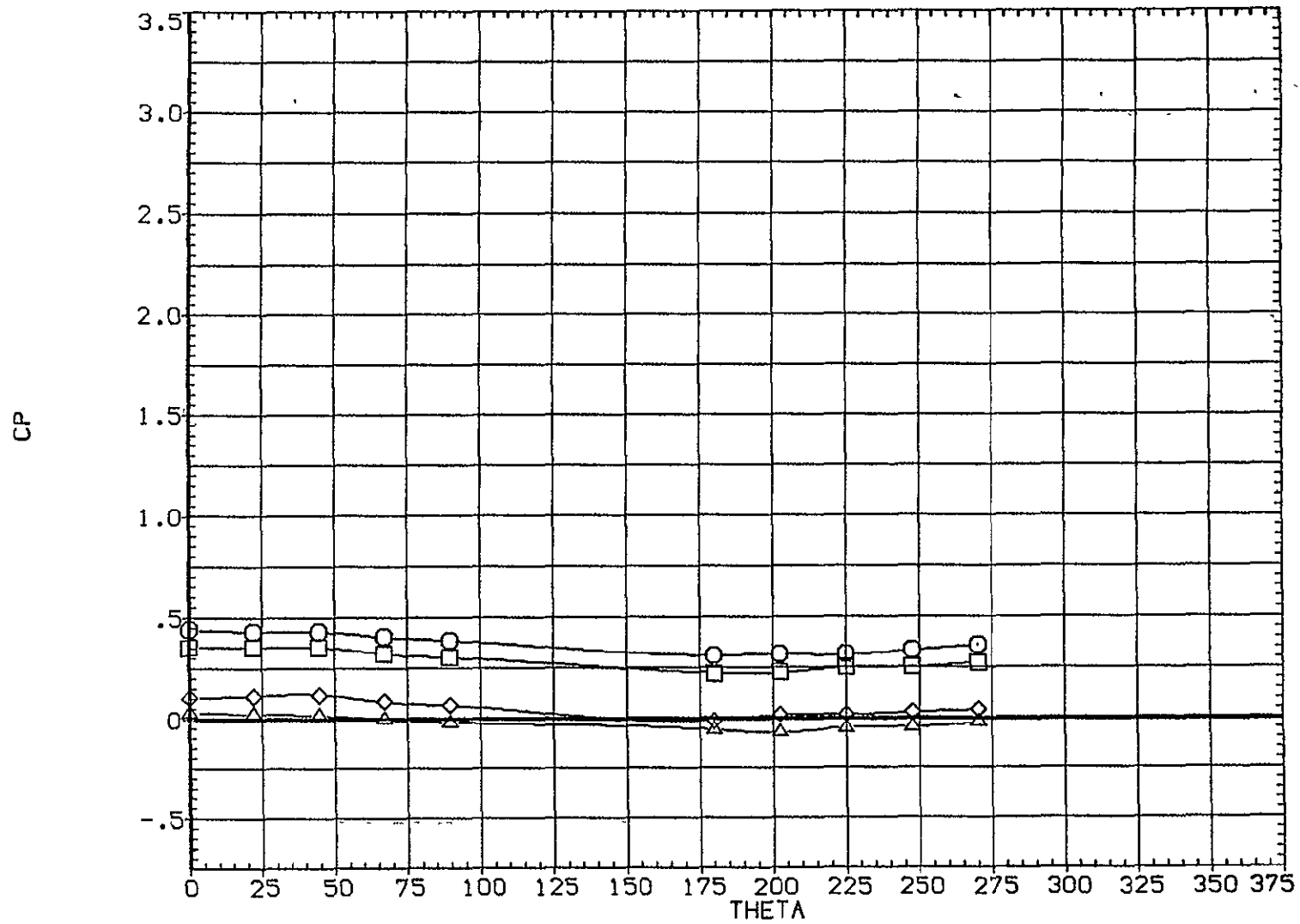
(B1G003)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-3.060	1.463			
□	.068					
◇	.077					
△	.085					
▽	.093					
◁	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	-3.060	1.463			
□	.131					
◇	.167					
△	.185					

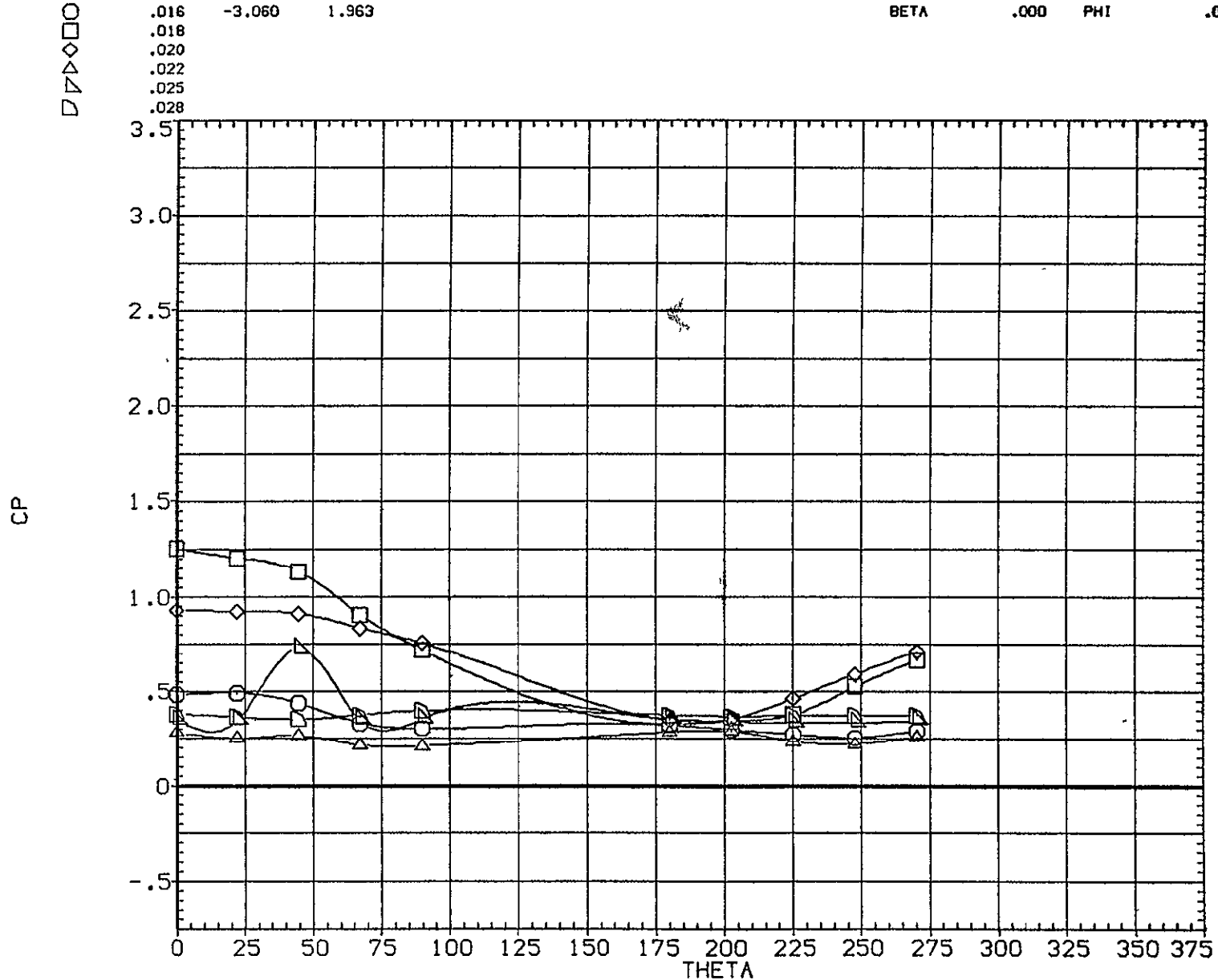


EFFECT OF RADIAL LOCATION ON PRESSURE

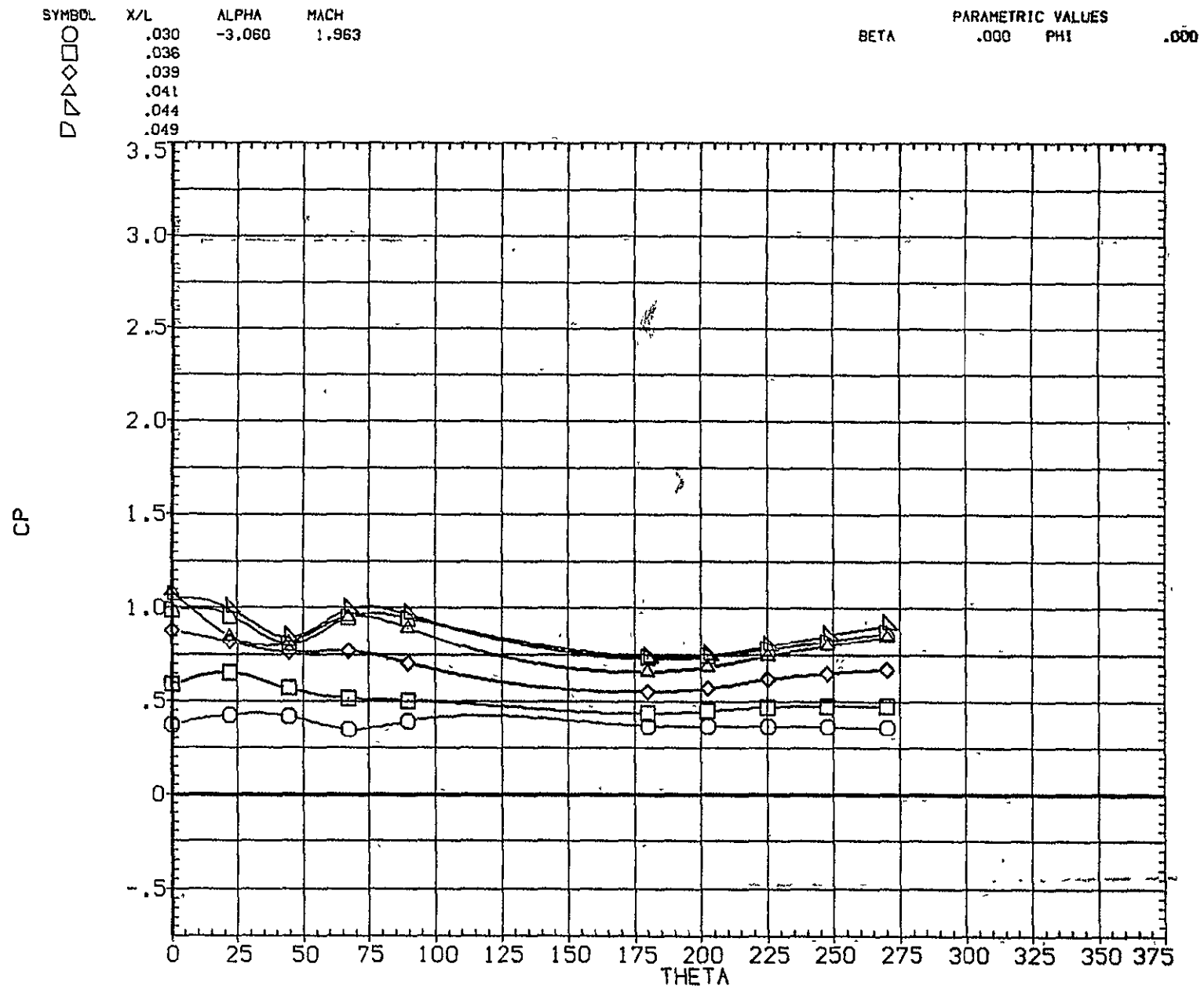
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G003)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
	.016	-3.060	1.963		.000	PHI	.000



EFFECT OF RADIAL LOCATION ON PRESSURE

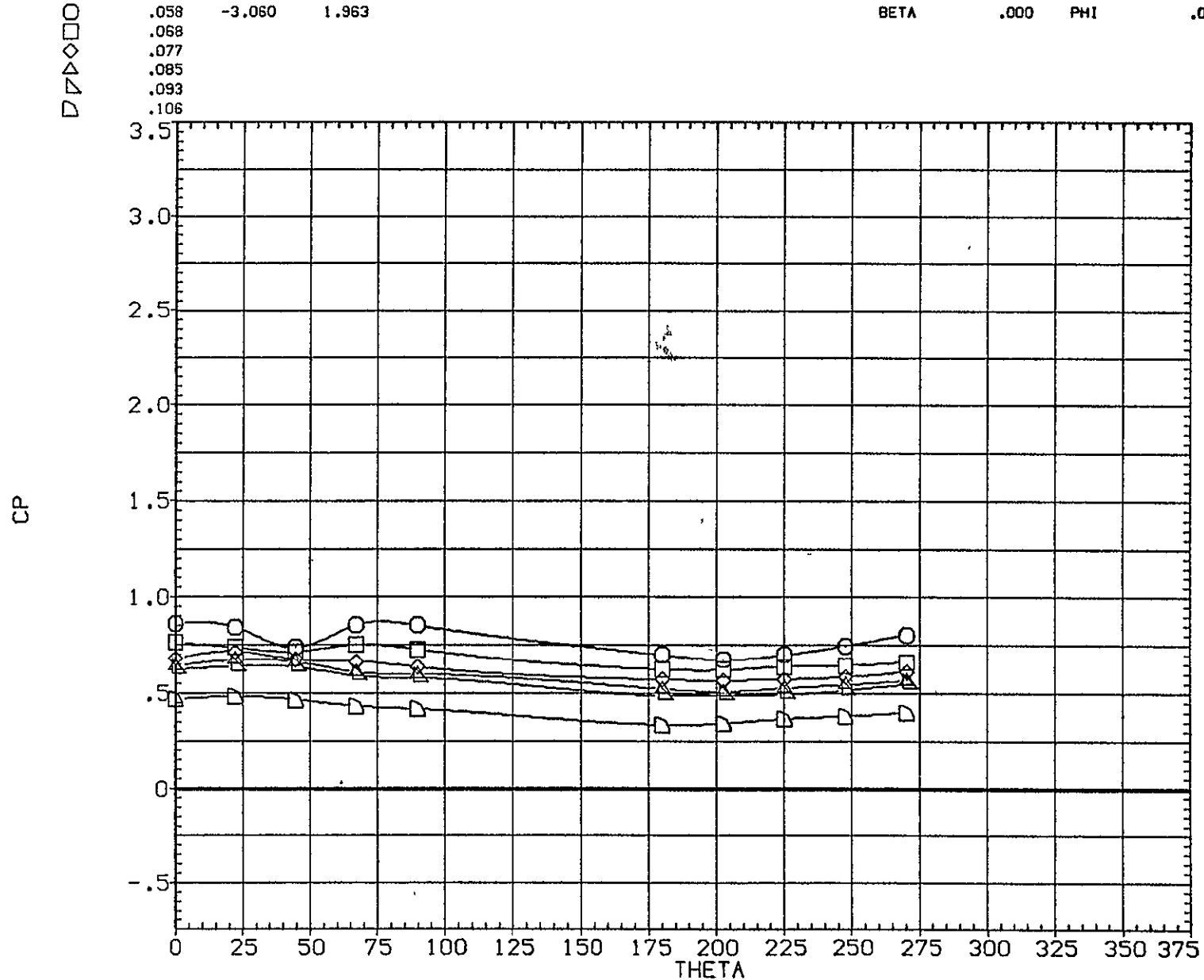


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET N0SE WITH N0SE CAP

(B1G003)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
	.058	-3.060	1.963		.000	PHI	.000



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL

○  
□  
◇  
△

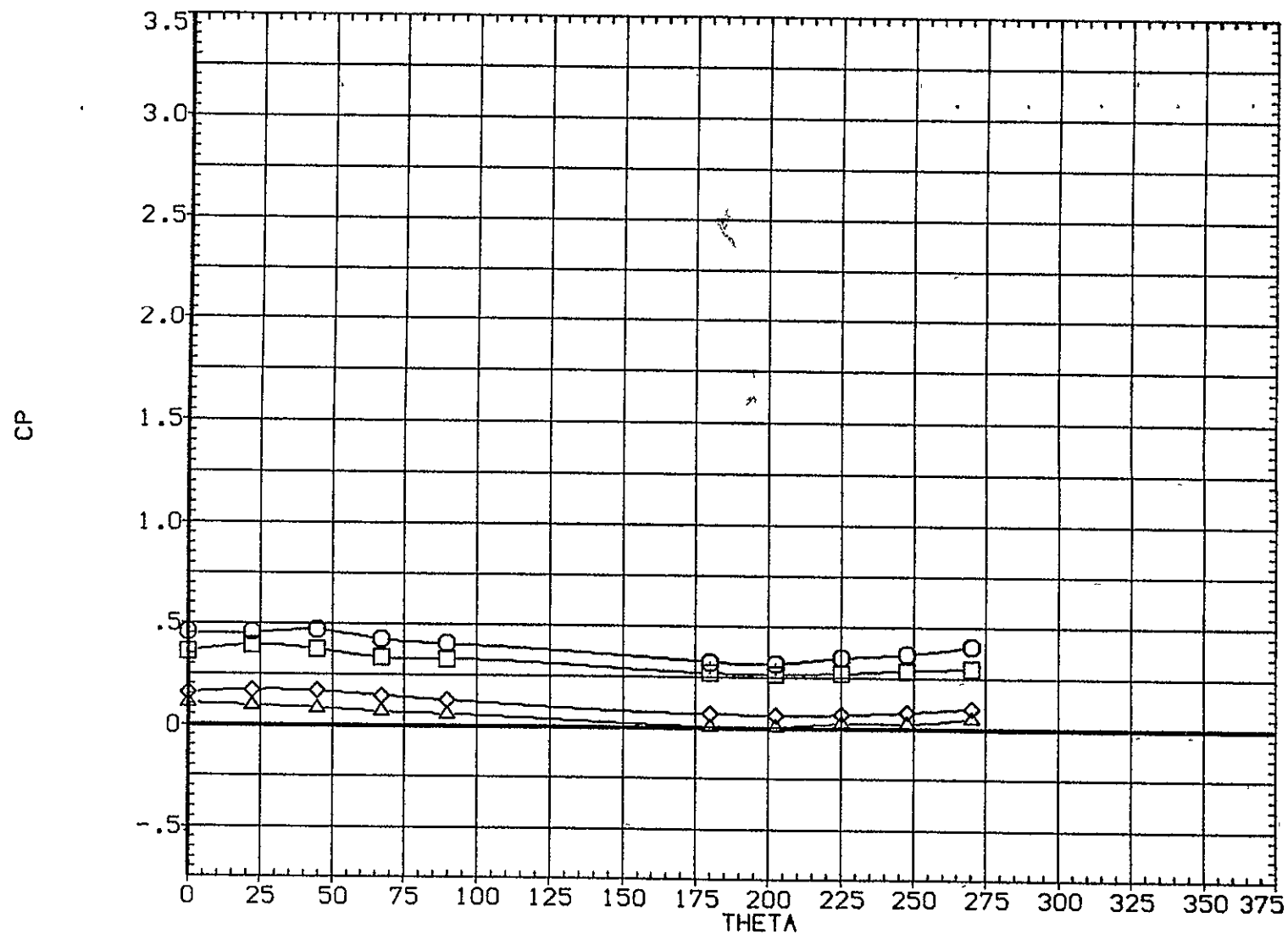
X/L

ALPHA  
-3.060MACH  
1.963

BETA

PARAMETRIC VALUES  
PHI

.000

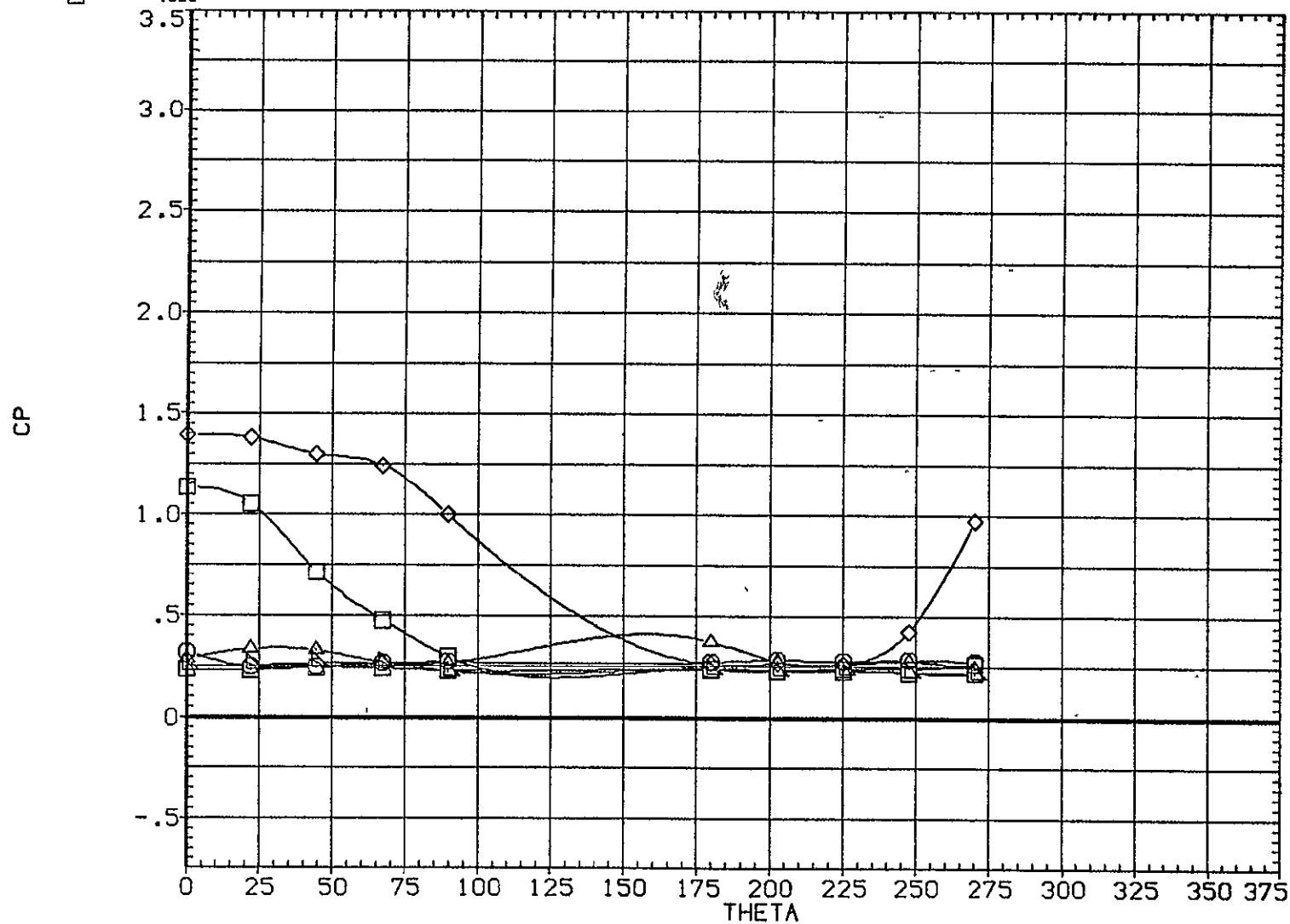


EFFECT OF RADIAL LOCATION ON PRESSURE

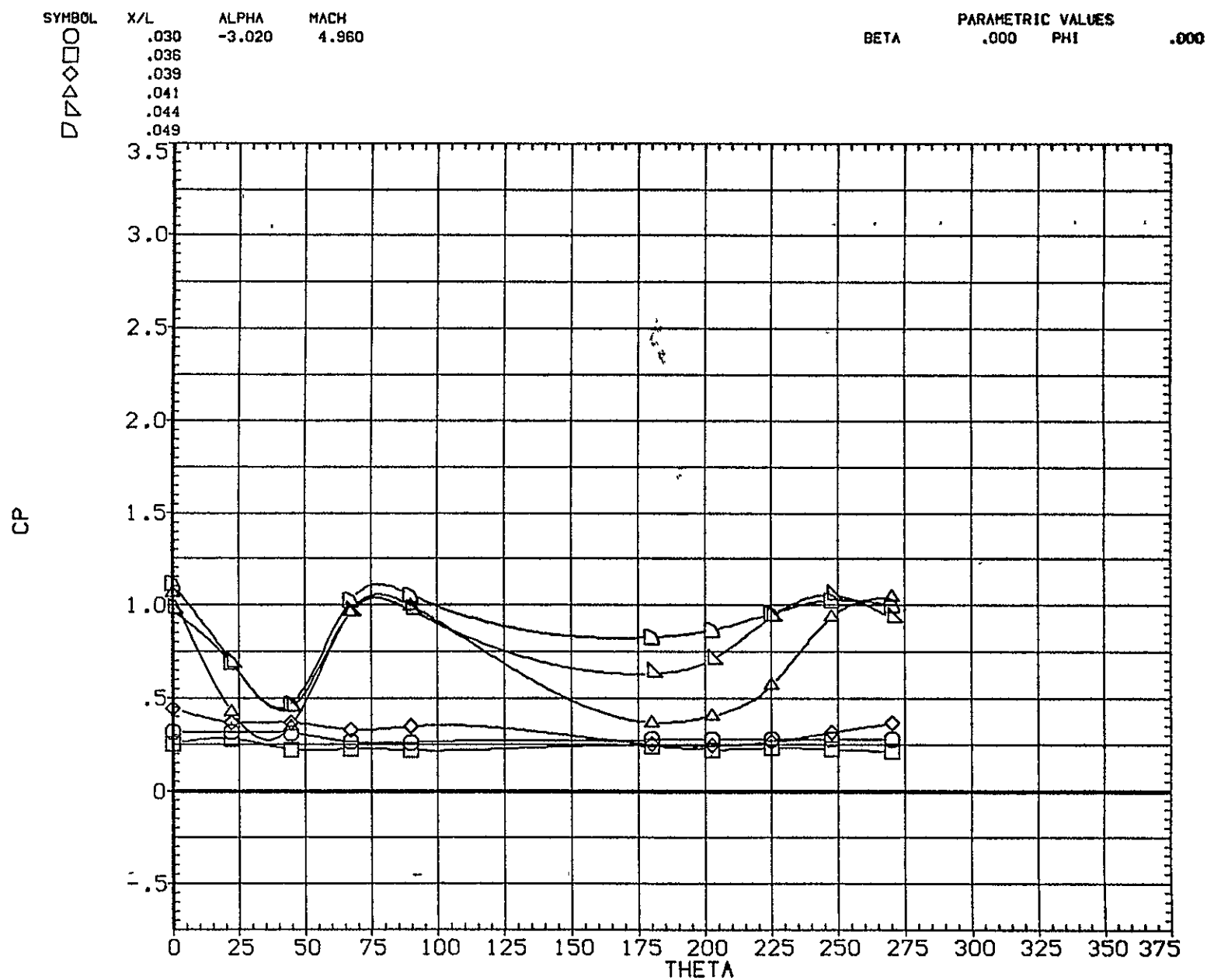
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16003)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
	.016	-3.020	4.960	.000		.000
	.018					
	.020					
	.022					
	.025					
	.028					



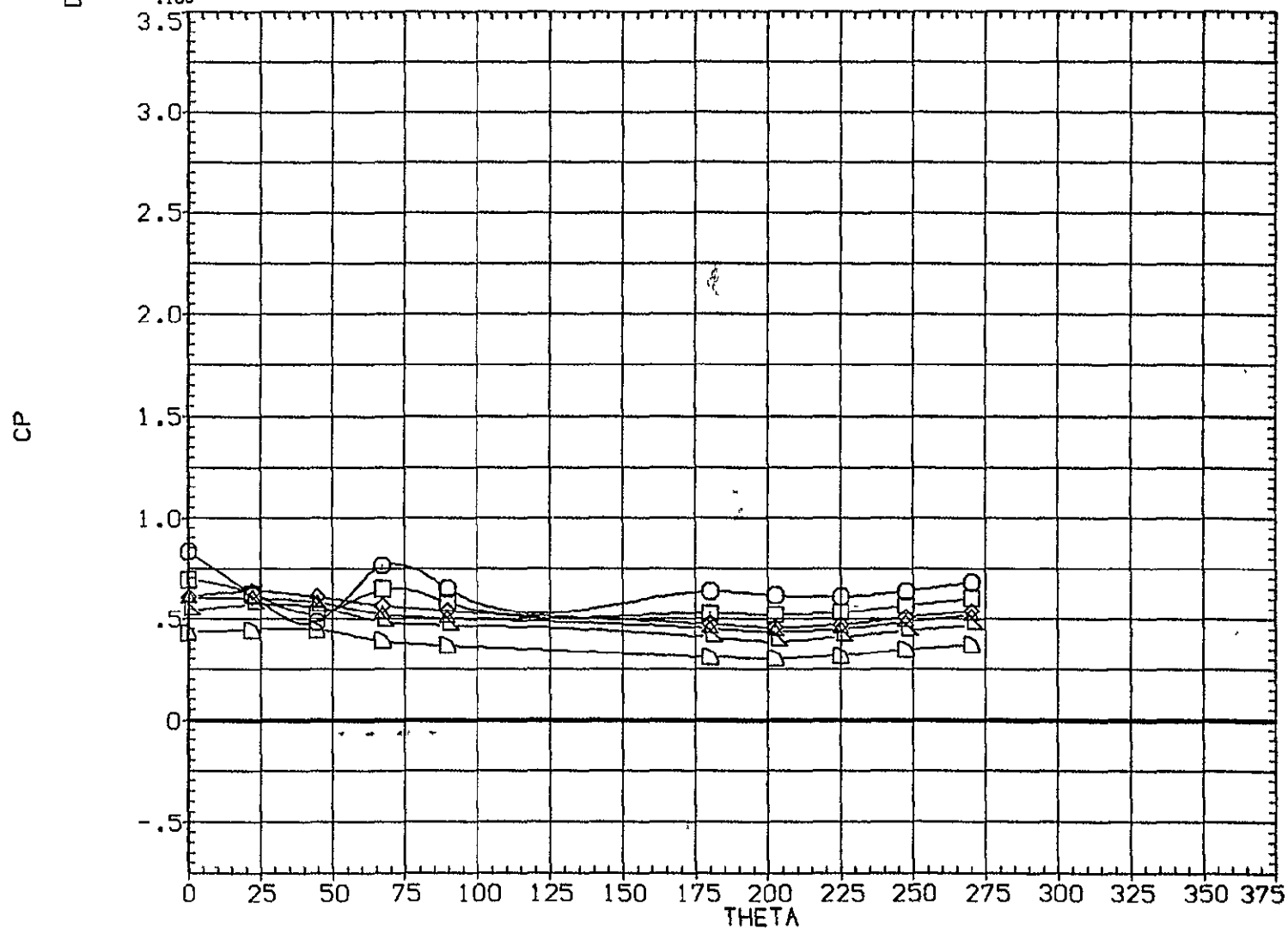
EFFECT OF RADIAL LOCATION ON PRESSURE





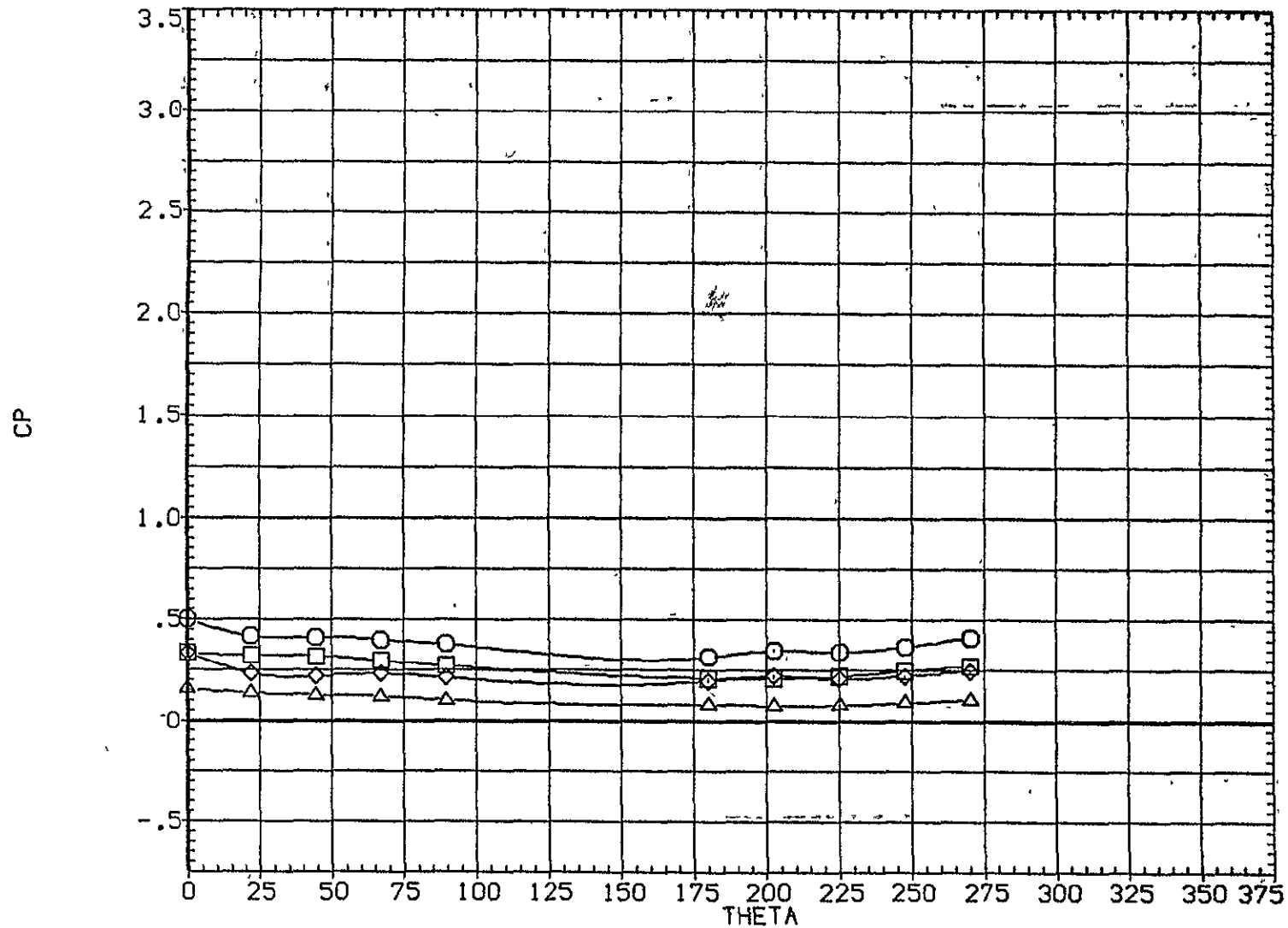
(B1G003)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
					.000	PHI	.000
○	.058	-3.020	4.960				
□	.069						
◇	.077						
△	.085						
▽	.093						
▽	.106						



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
○	.118	-3.020	4.960		.000	PHI	.000
□	.131						
◇	.167						
△	.185						

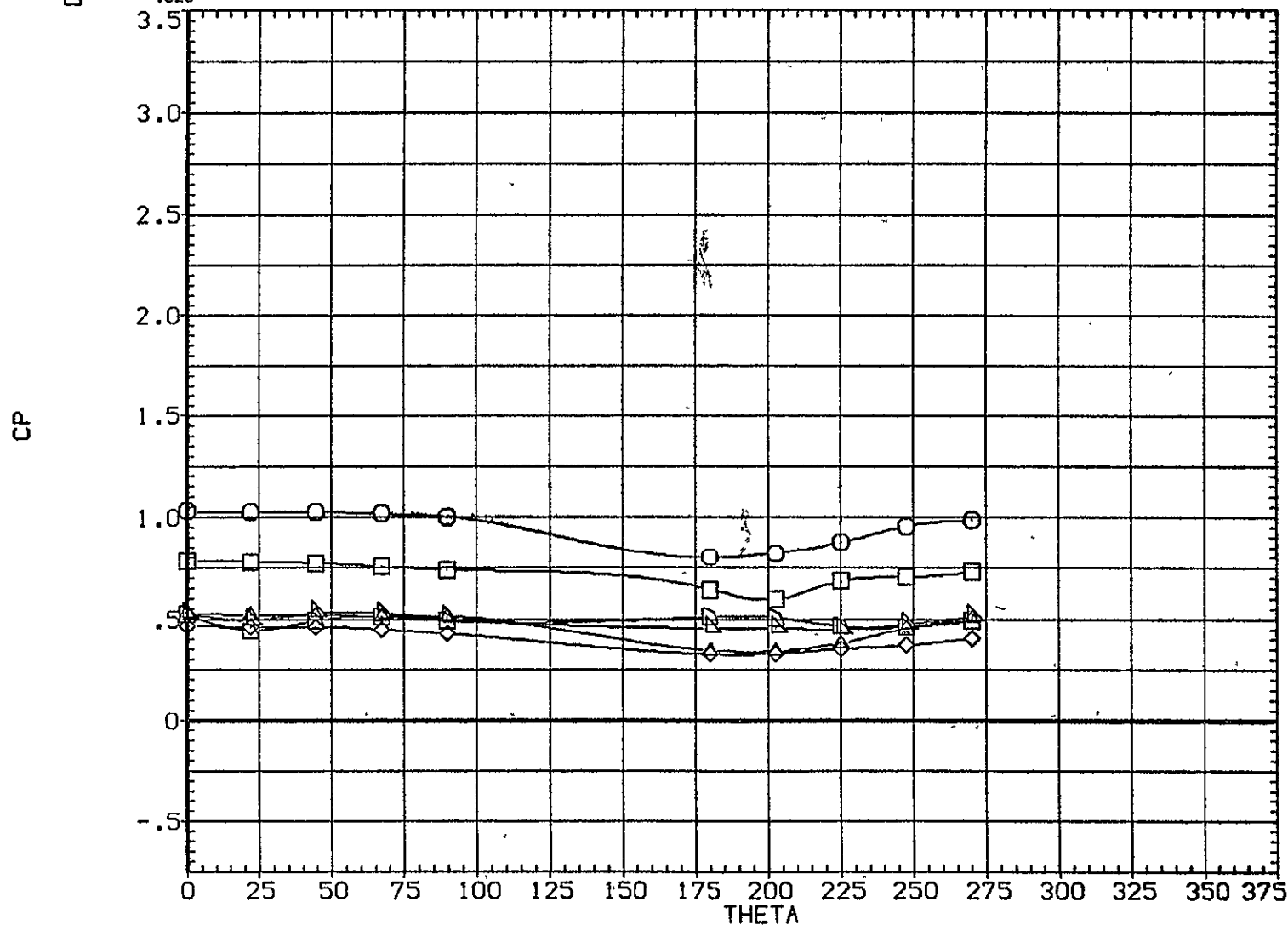


EFFECT OF RADIAL LOCATION ON PRESSURE

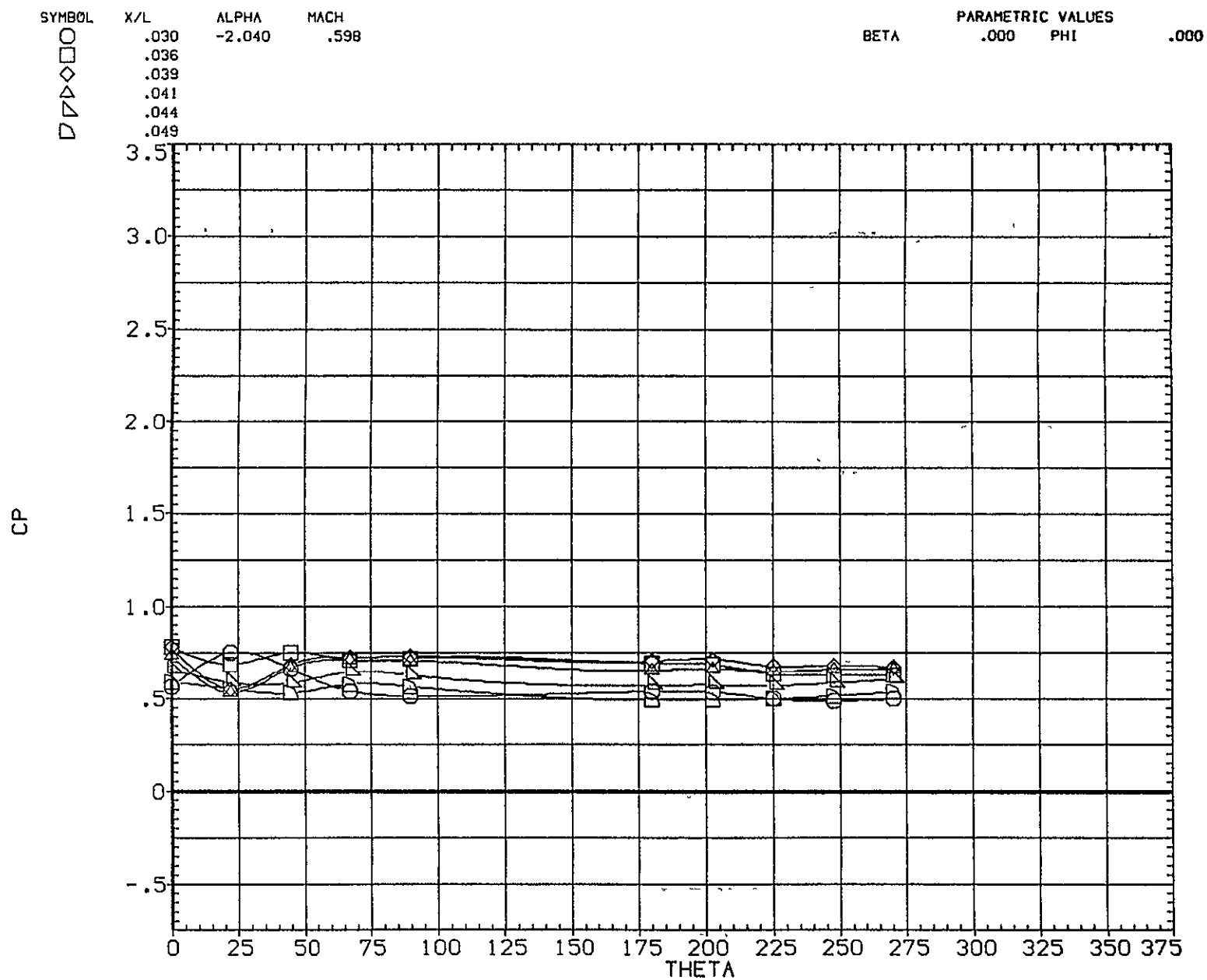
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16004)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
	.016	-2.040	.598			
	.018					
	.020					
	.022					
	.025					
	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

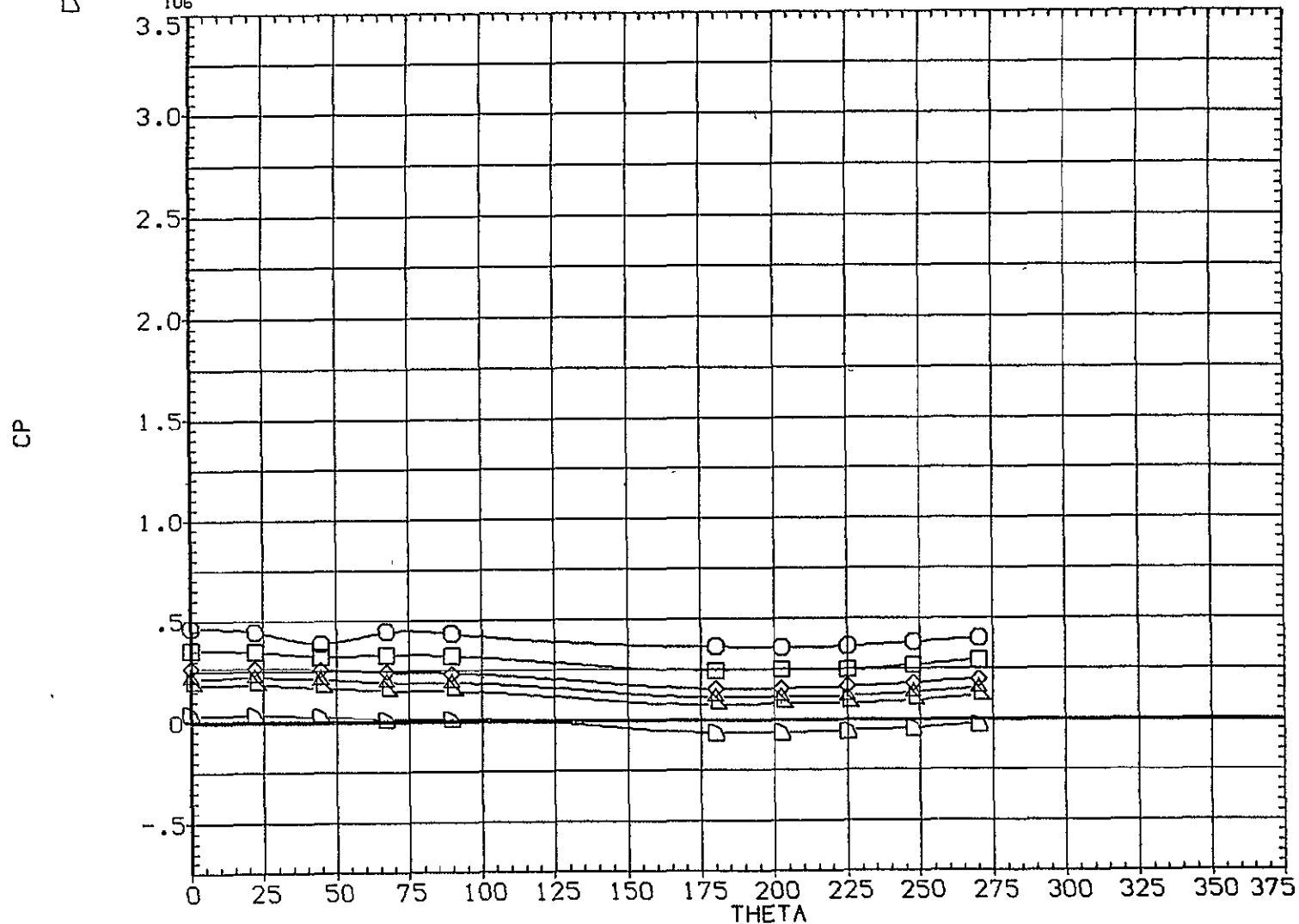


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

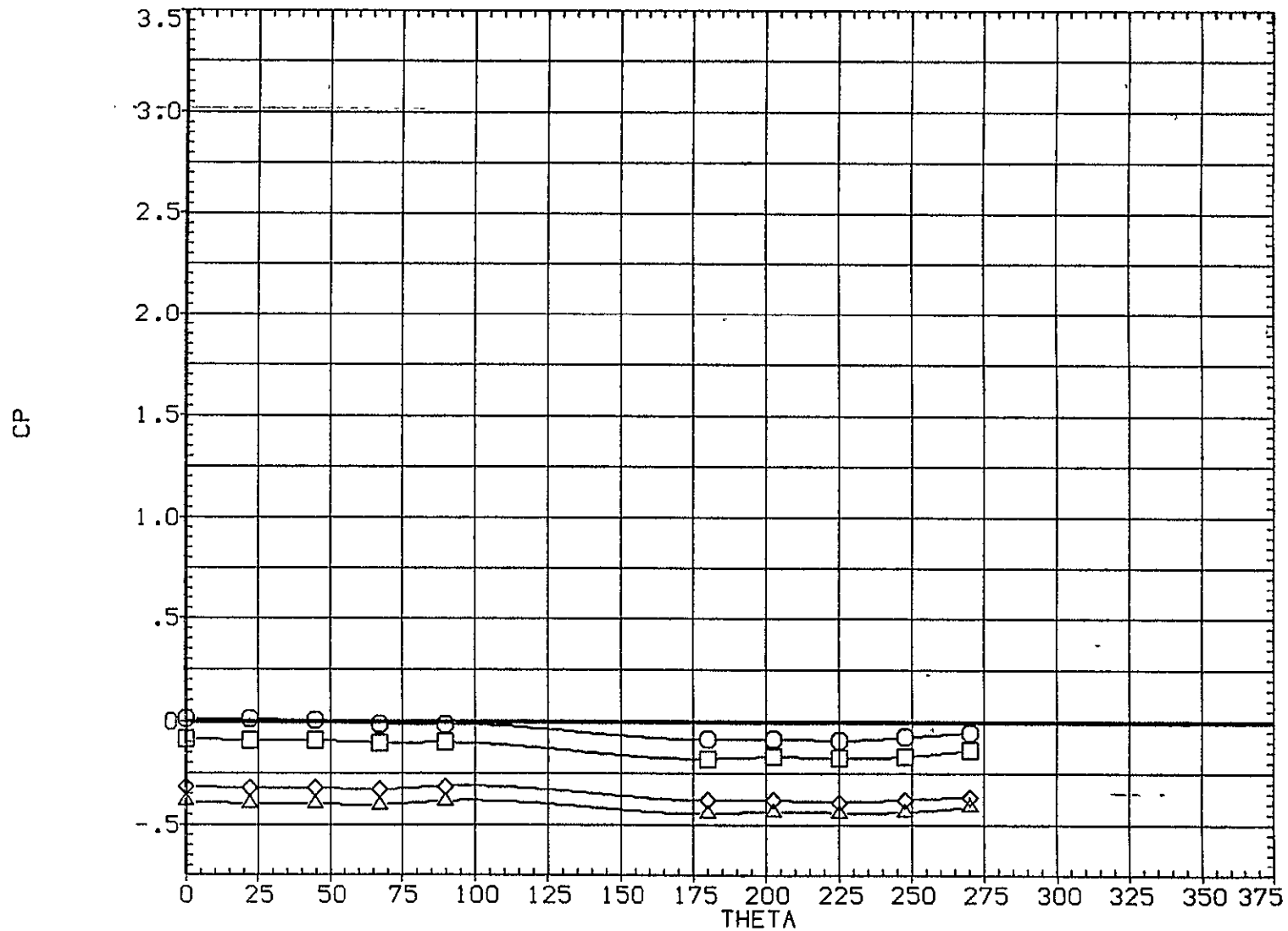
(B1G004)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-2.040	.598			
□	.068					
◇	.077					
△	.085					
▽	.093					
◁	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	-2.040	.598		.000		.000
□	.131						
◇	.167						
△	.185						

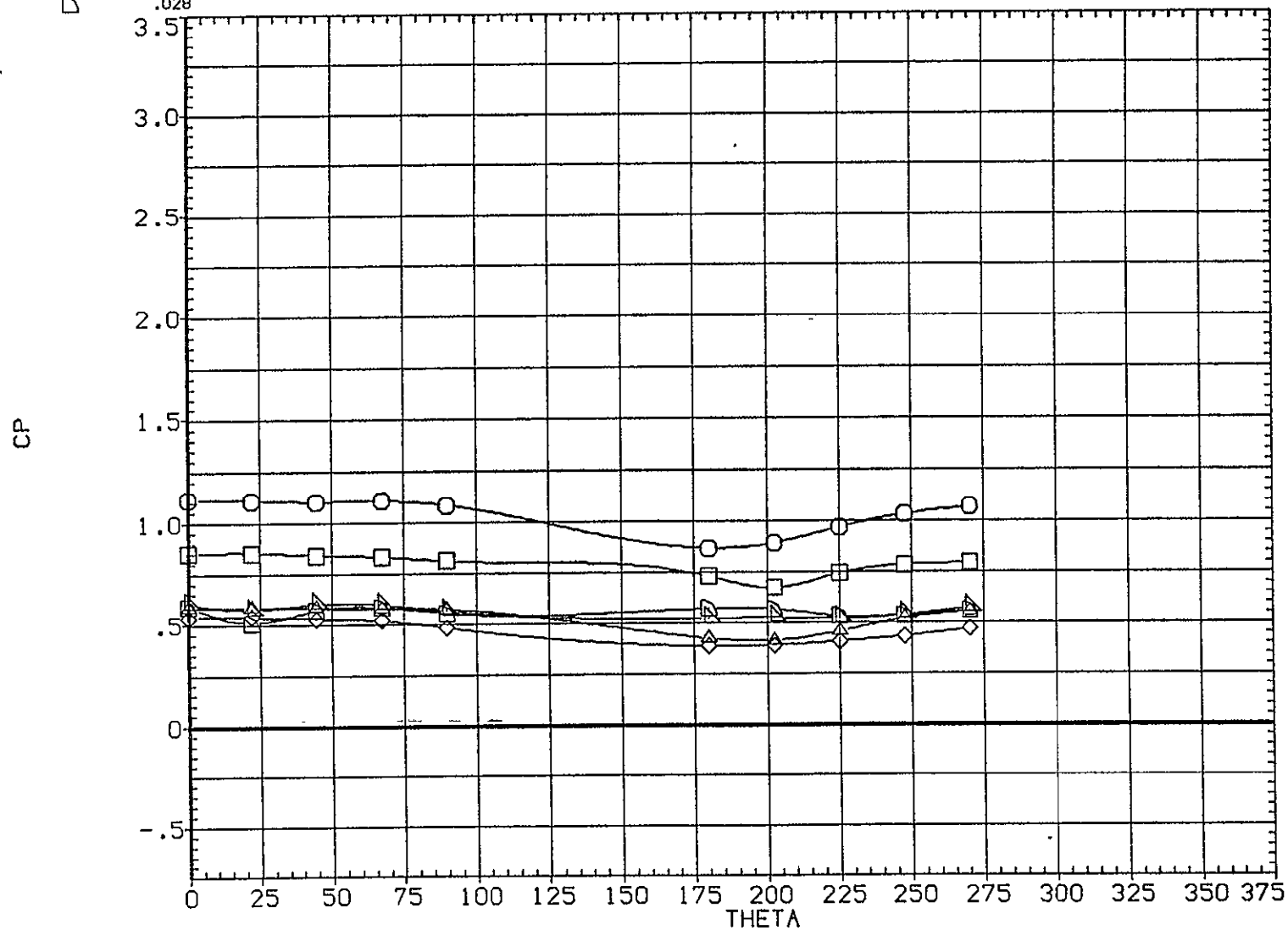


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NØSE WITH NØSE CAP

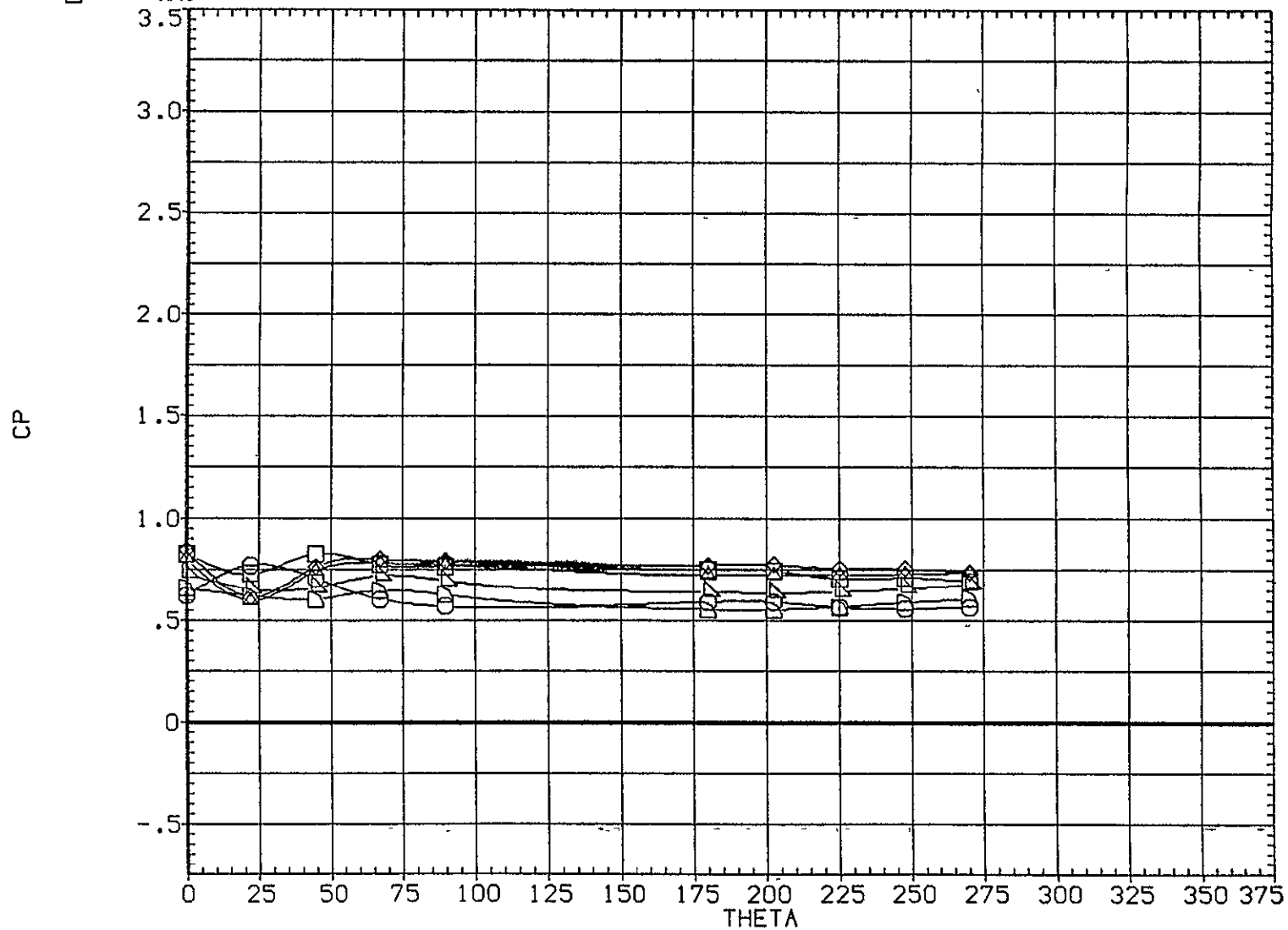
(B1G004)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-2.020	.798	.000		.000
□	.018					
◇	.020					
△	.022					
▽	.025					
◻	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	-2.020	.798			
□	.036					
◇	.039					
△	.041					
▽	.044					
◊	.049					

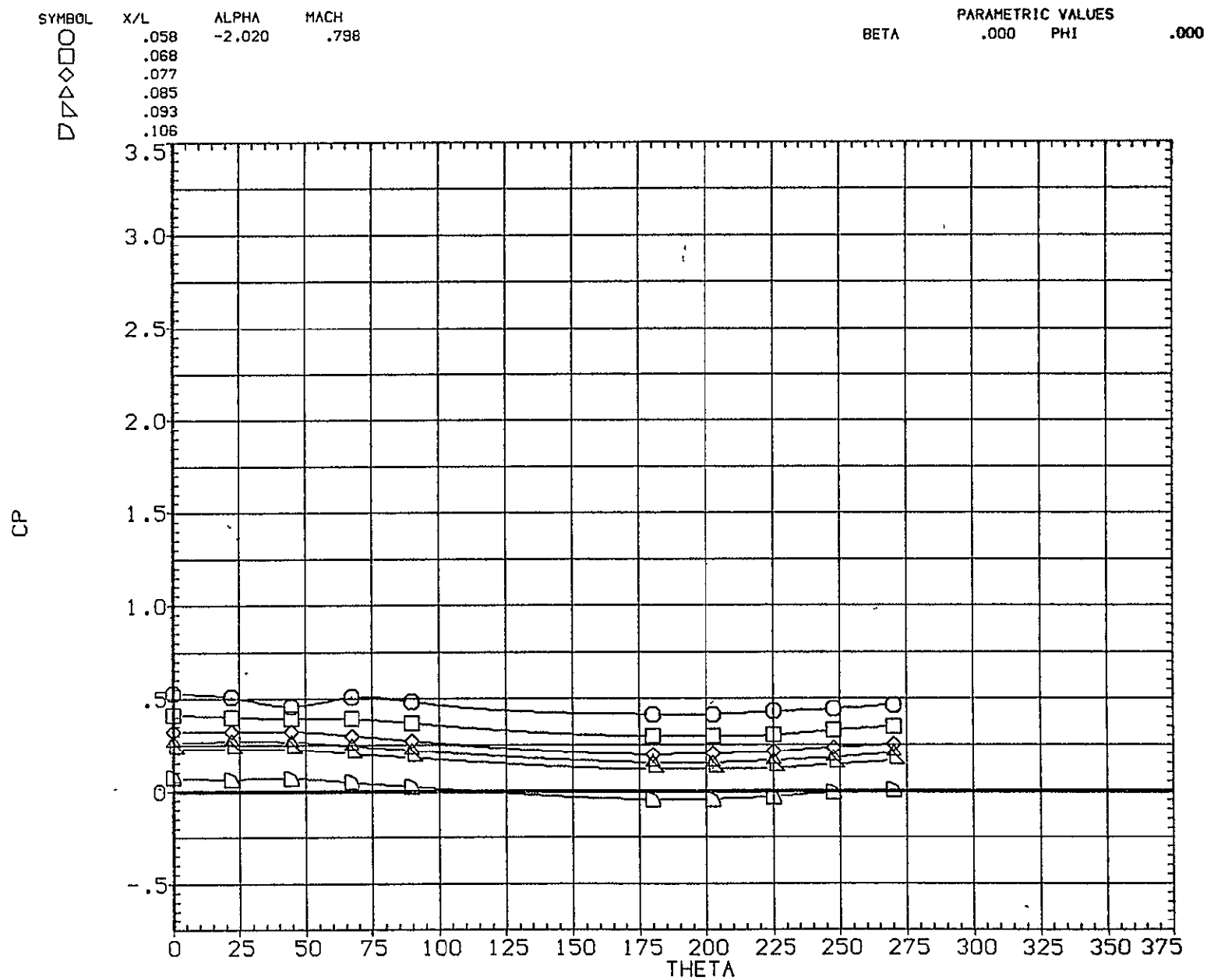


EFFECT OF RADIAL LOCATION ON PRESSURE



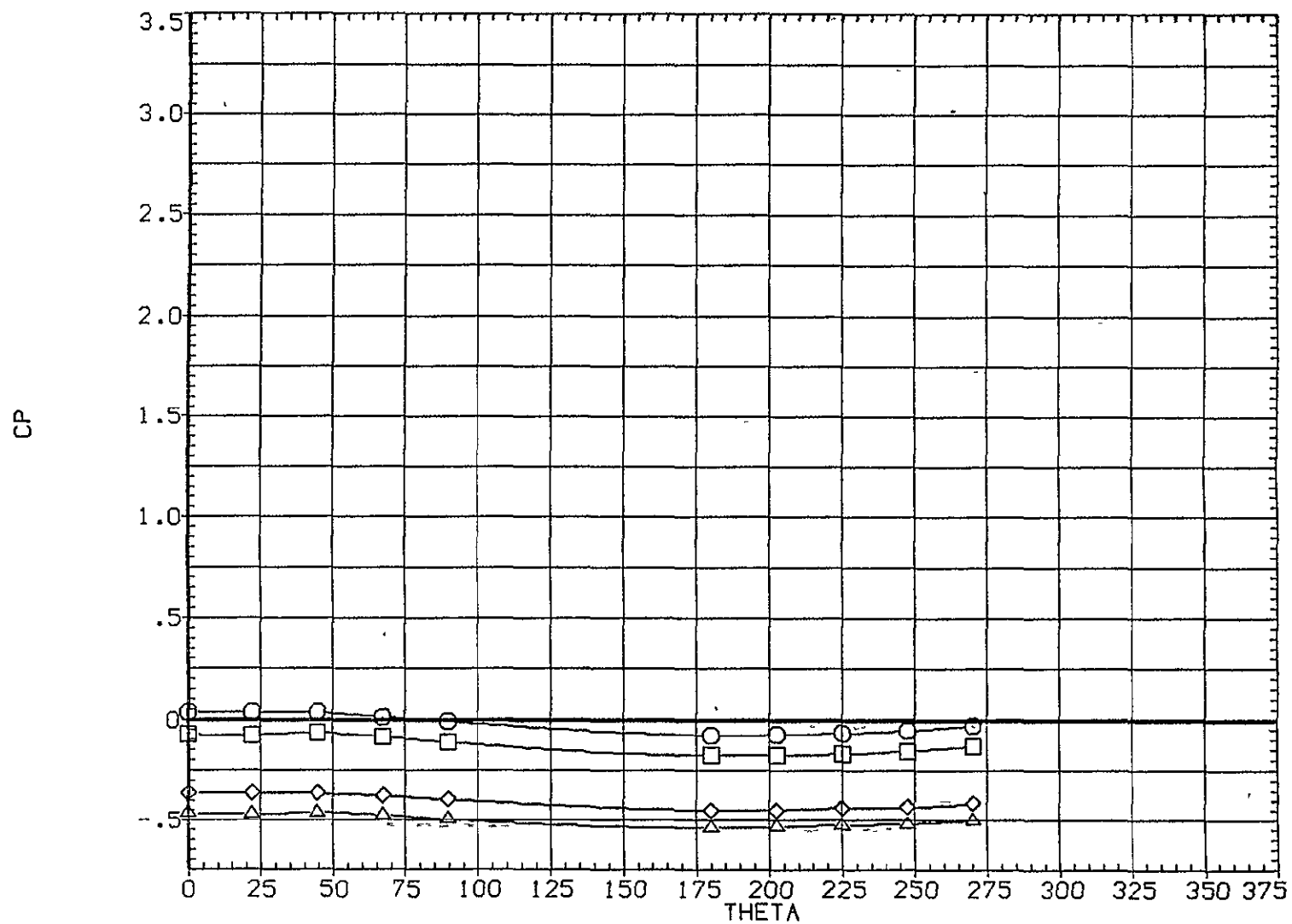
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G004)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	-2.020	.798		.000		.000
□	.131						
◇	.167						
△	.185						

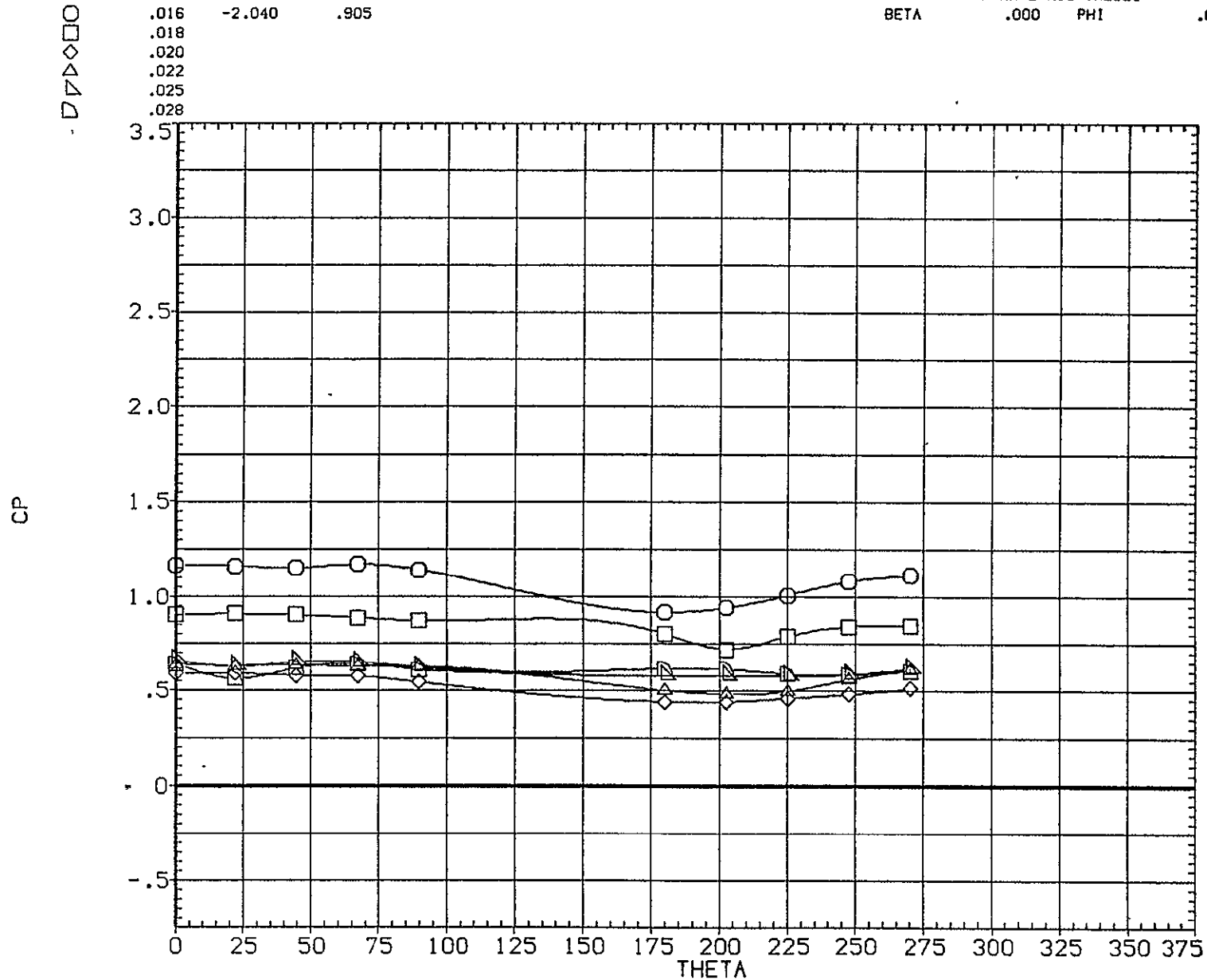


EFFECT OF RADIAL LOCATION ON PRESSURE

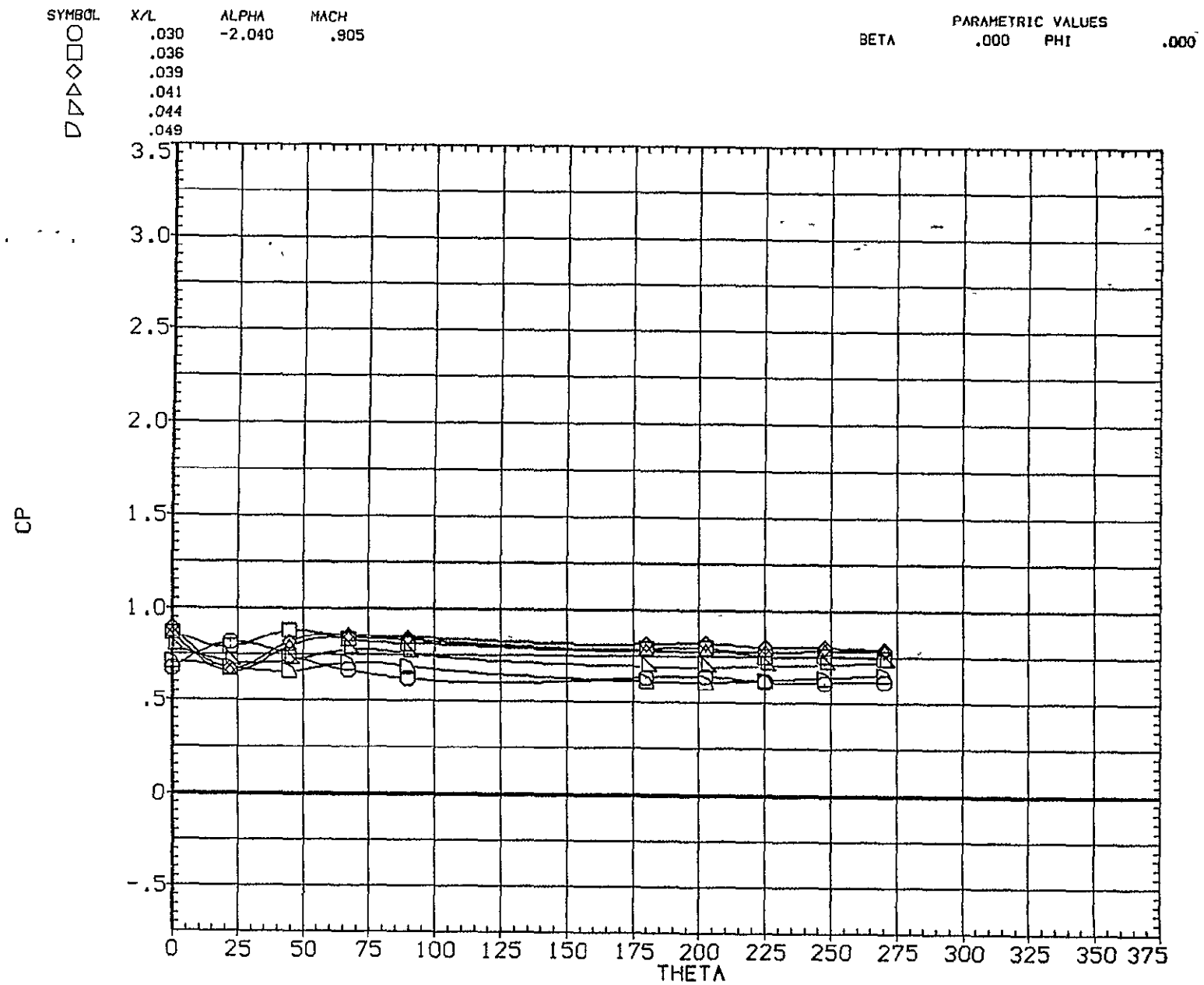
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G004)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
	.016	-2.040	.905		.000	PHI	.000



EFFECT OF RADIAL LOCATION ON PRESSURE

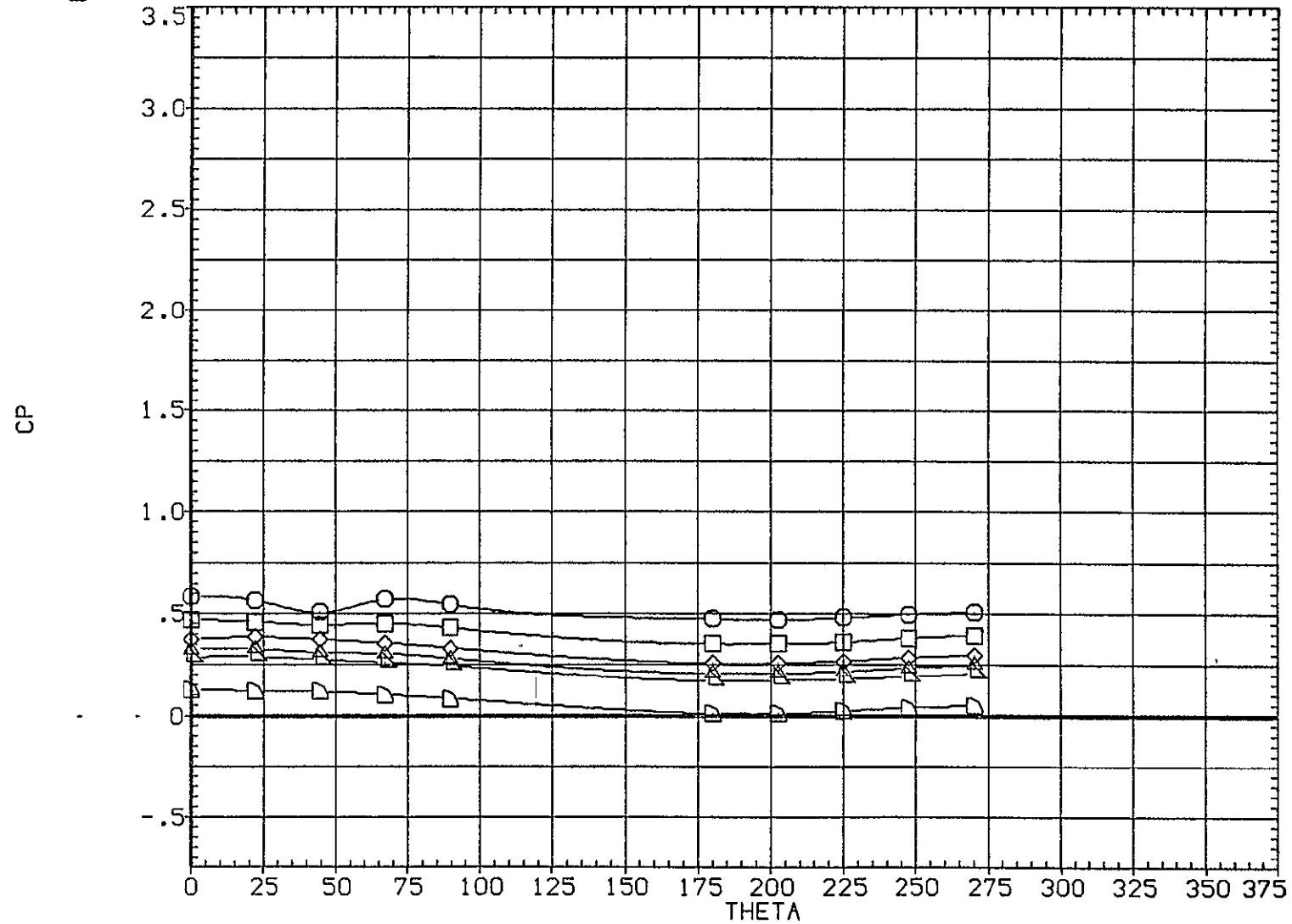


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

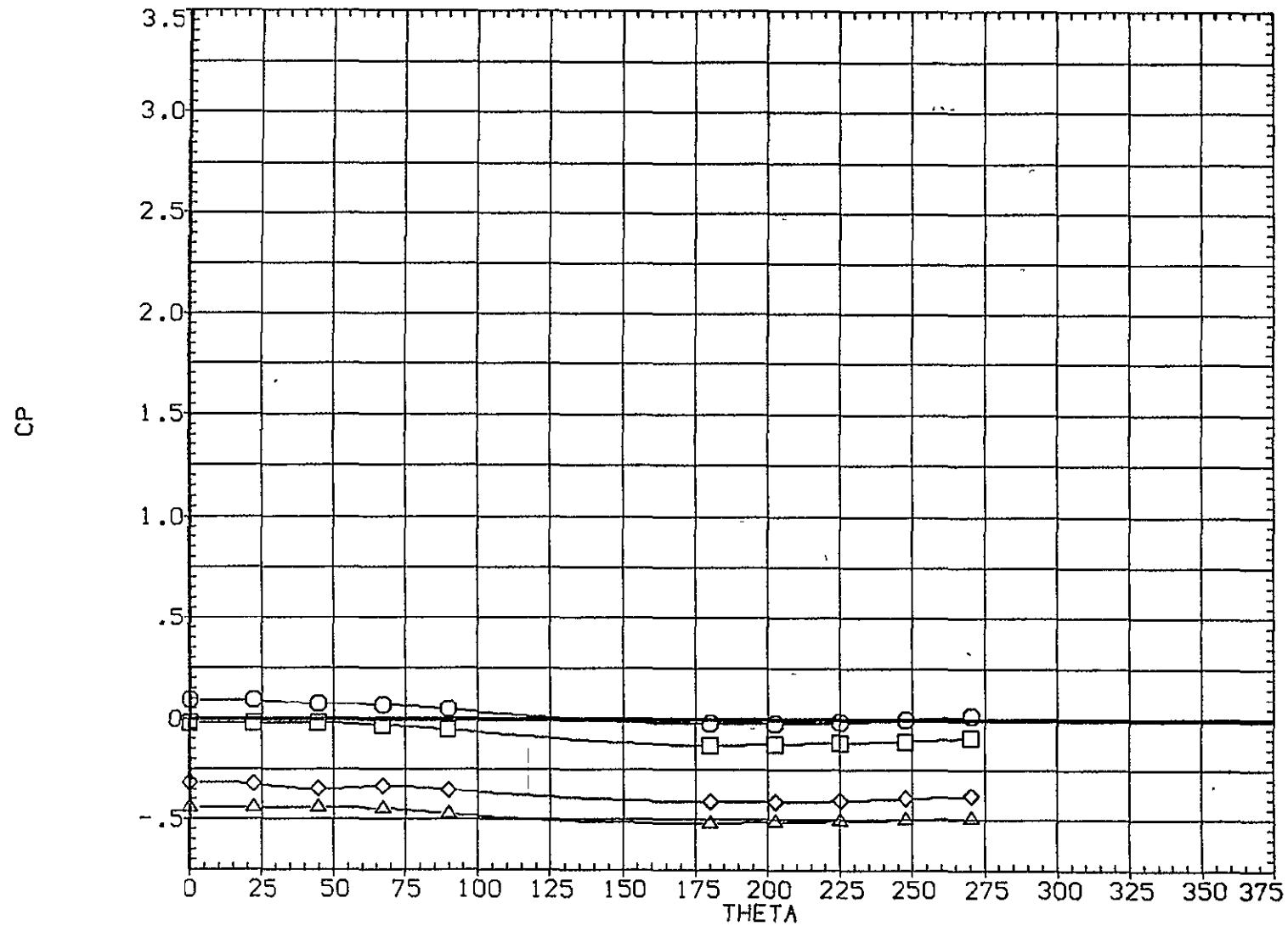
(B1G004)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-2.040	.905			
□	.068					
◇	.077					
△	.085					
▽	.093					
◻	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	-2.040	.905			
□	.131					
◇	.167					
△	.185					

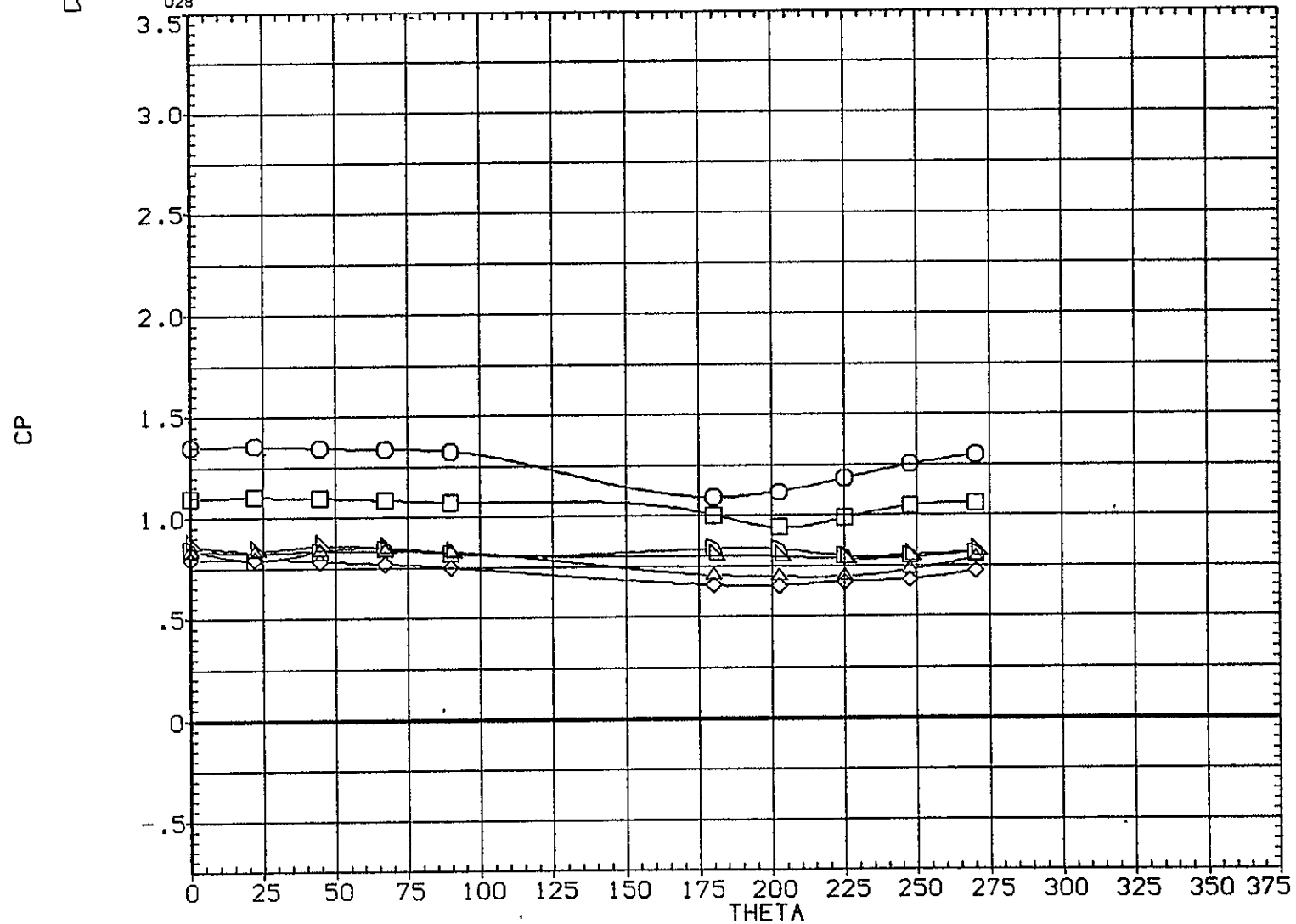


EFFECT OF RADIAL LOCATION ON PRESSURE

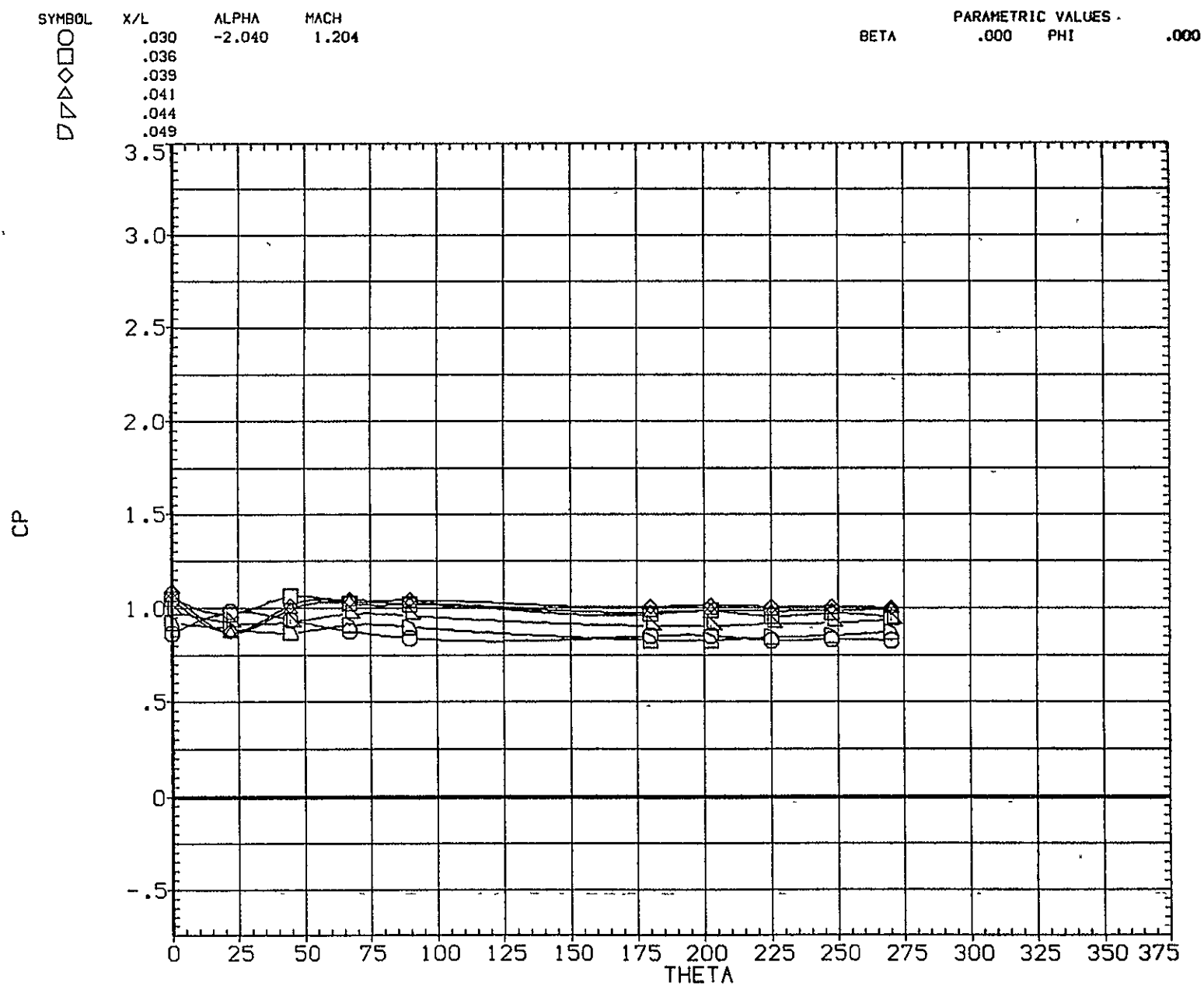
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16004)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	.000
○	.016	-2.040	1.204			
□	.018					
◇	.020					
△	.022					
▽	.025					
◇	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE



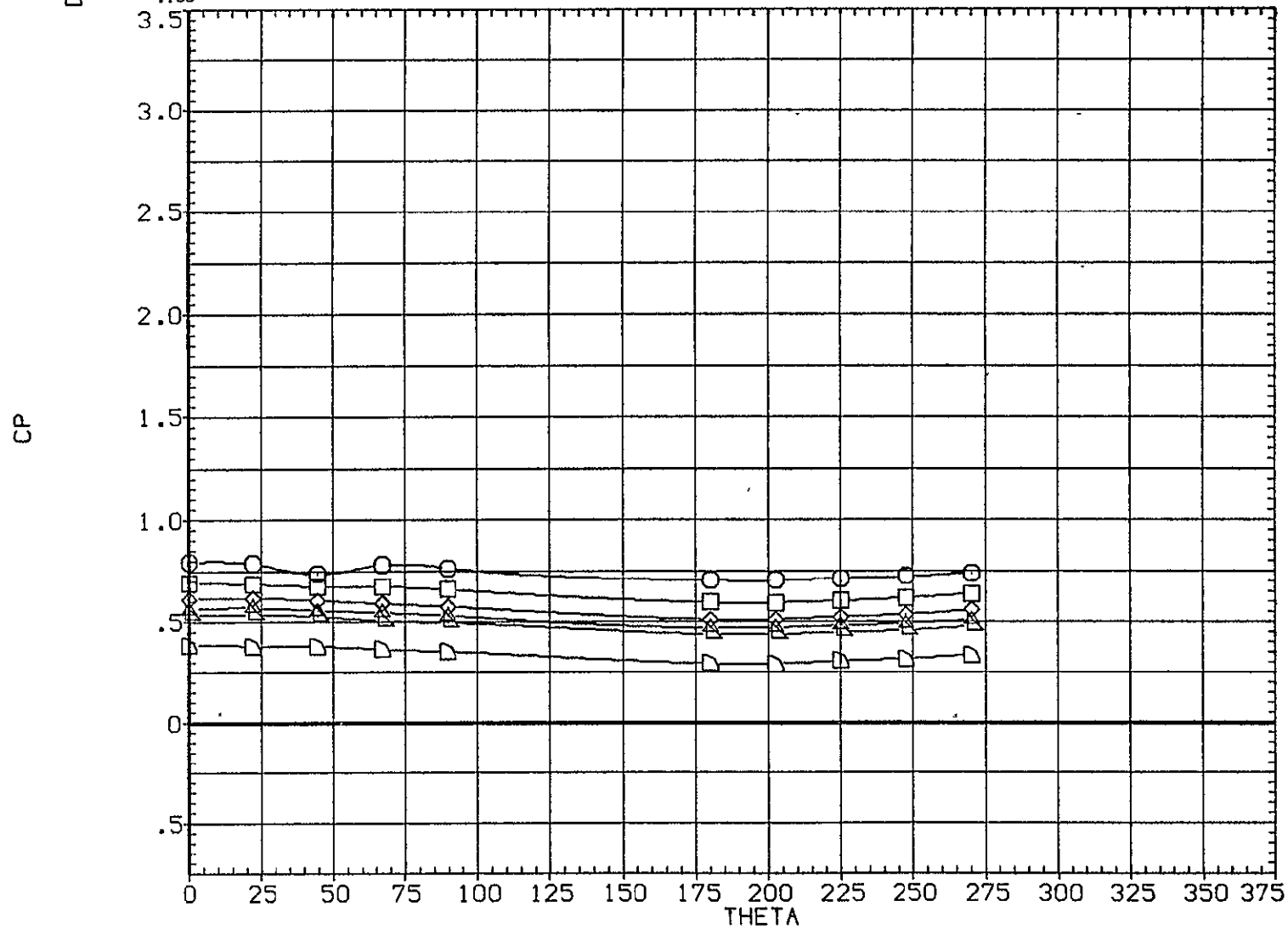
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

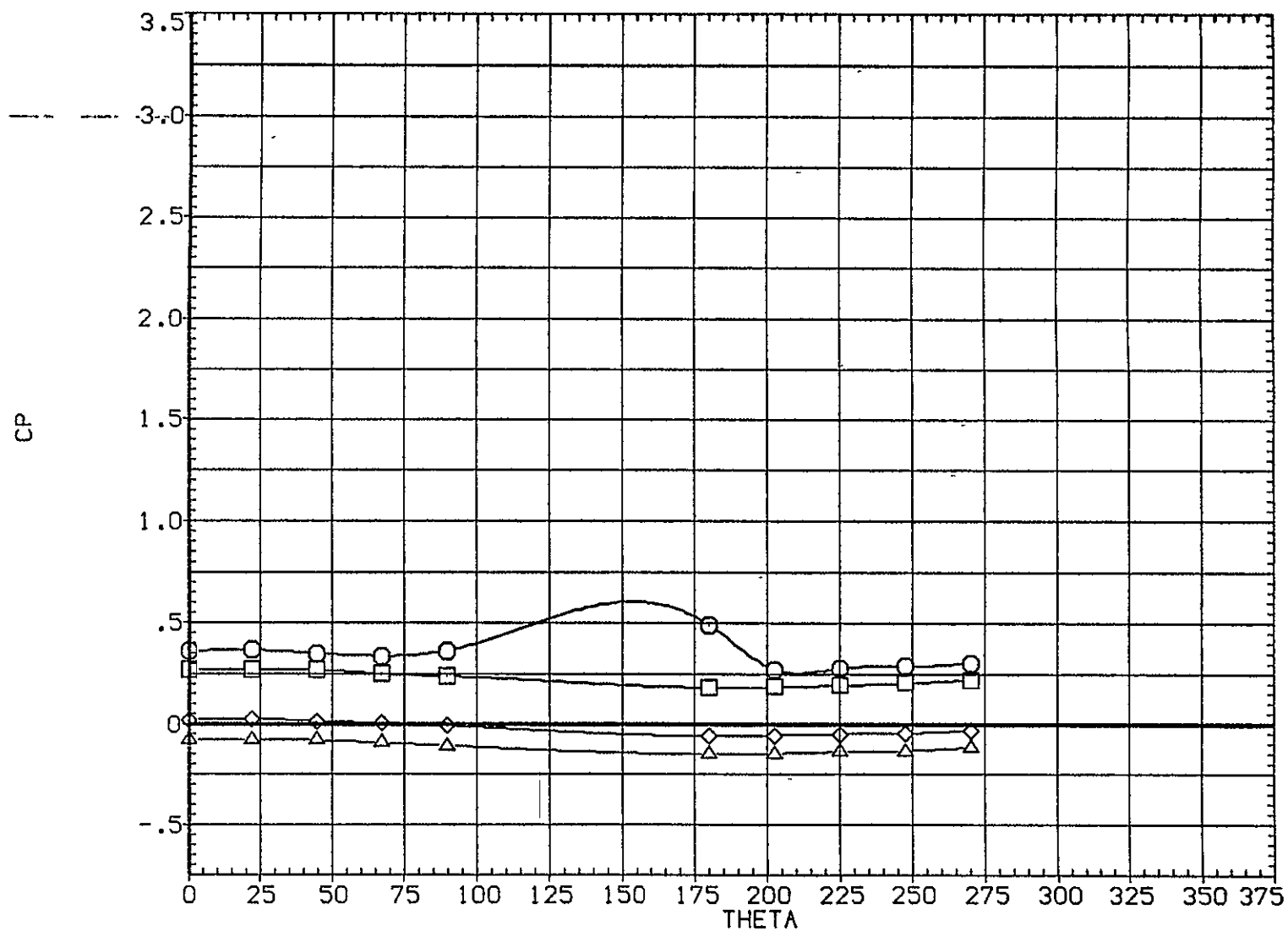
(B16004)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-2.040	1.204			
□	.068					
◇	.077					
△	.085					
▽	.093					
◁	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

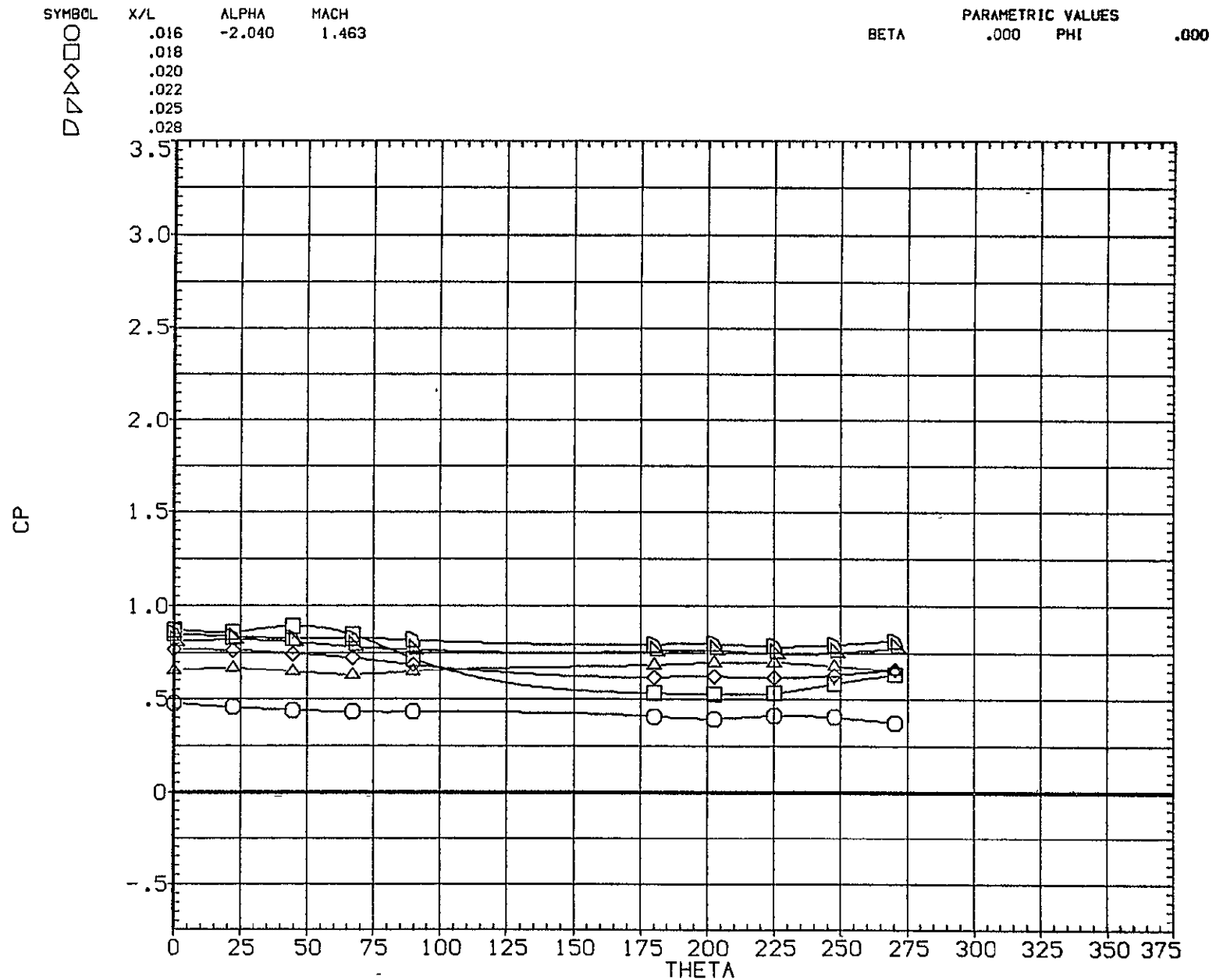
SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.000
○	.118	-2.040	1.204				
□	.131						
◇	.167						
△	.185						



EFFECT OF RADIAL LOCATION ON PRESSURE

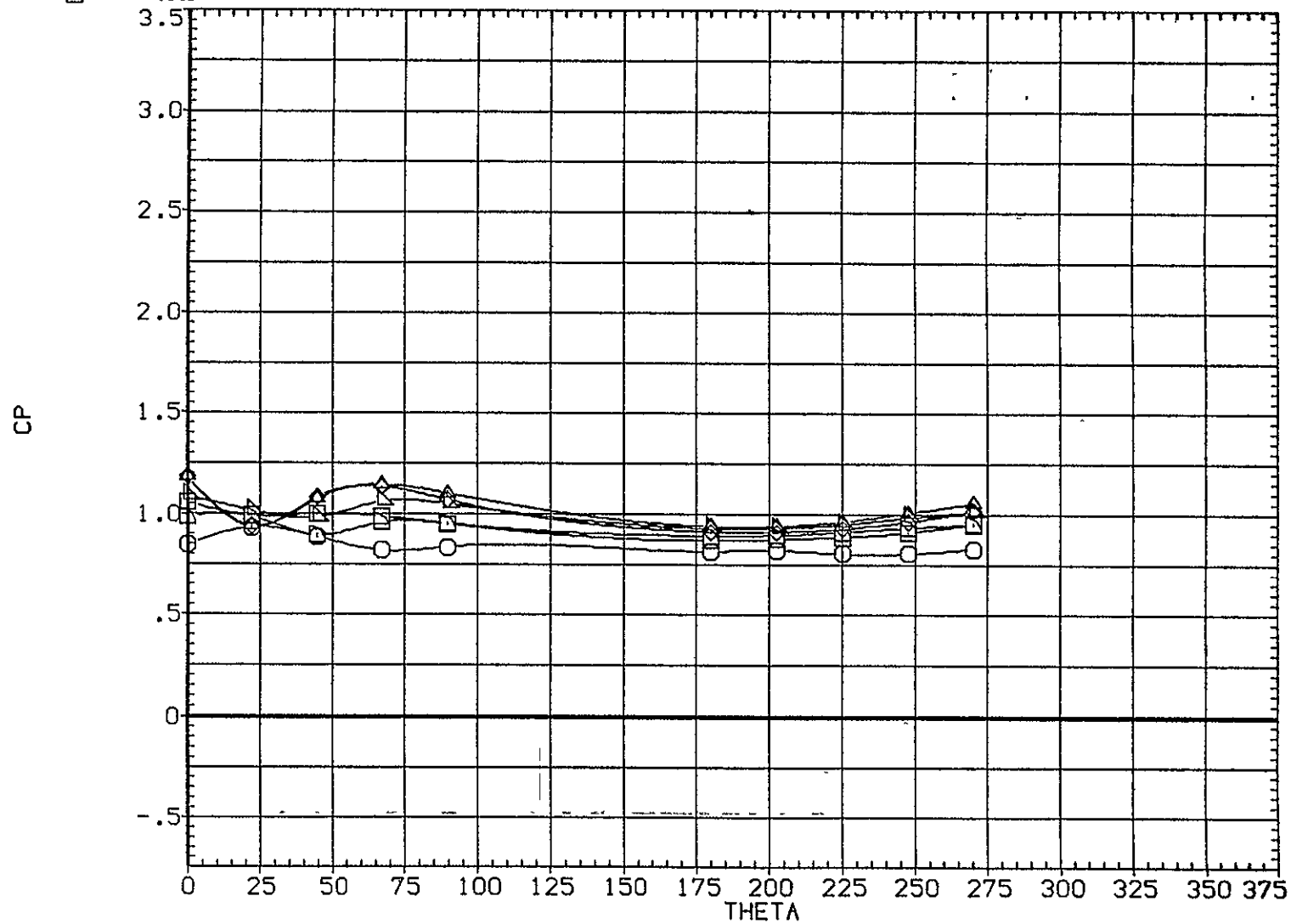
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G004)



EFFECT OF RADIAL LOCATION ON PRESSURE

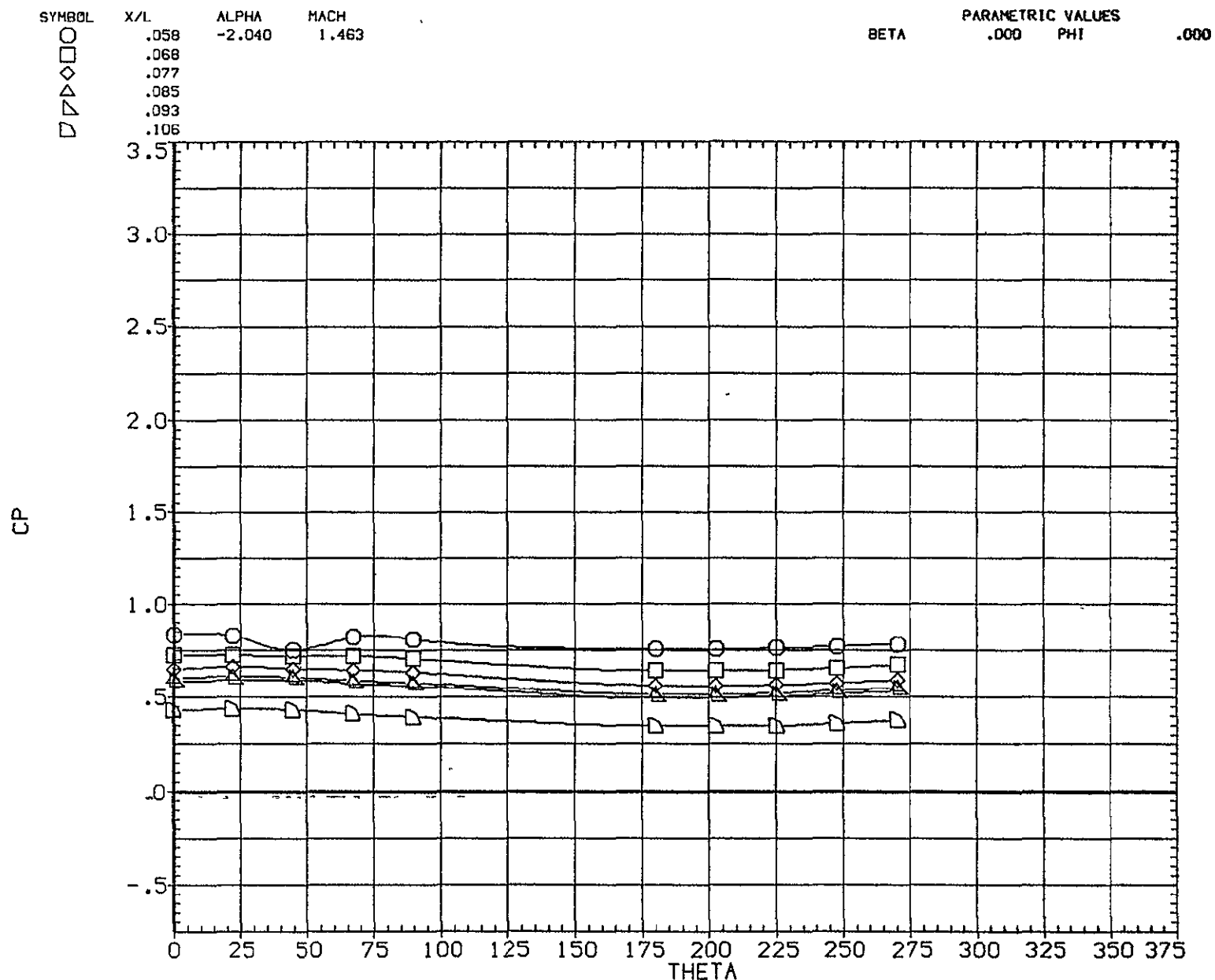
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	-2.040	1.463			
□	.036				.000	.000
◇	.039					
△	.041					
▽	.044					
◊	.049					



EFFECT OF RADIAL LOCATION ON PRESSURE

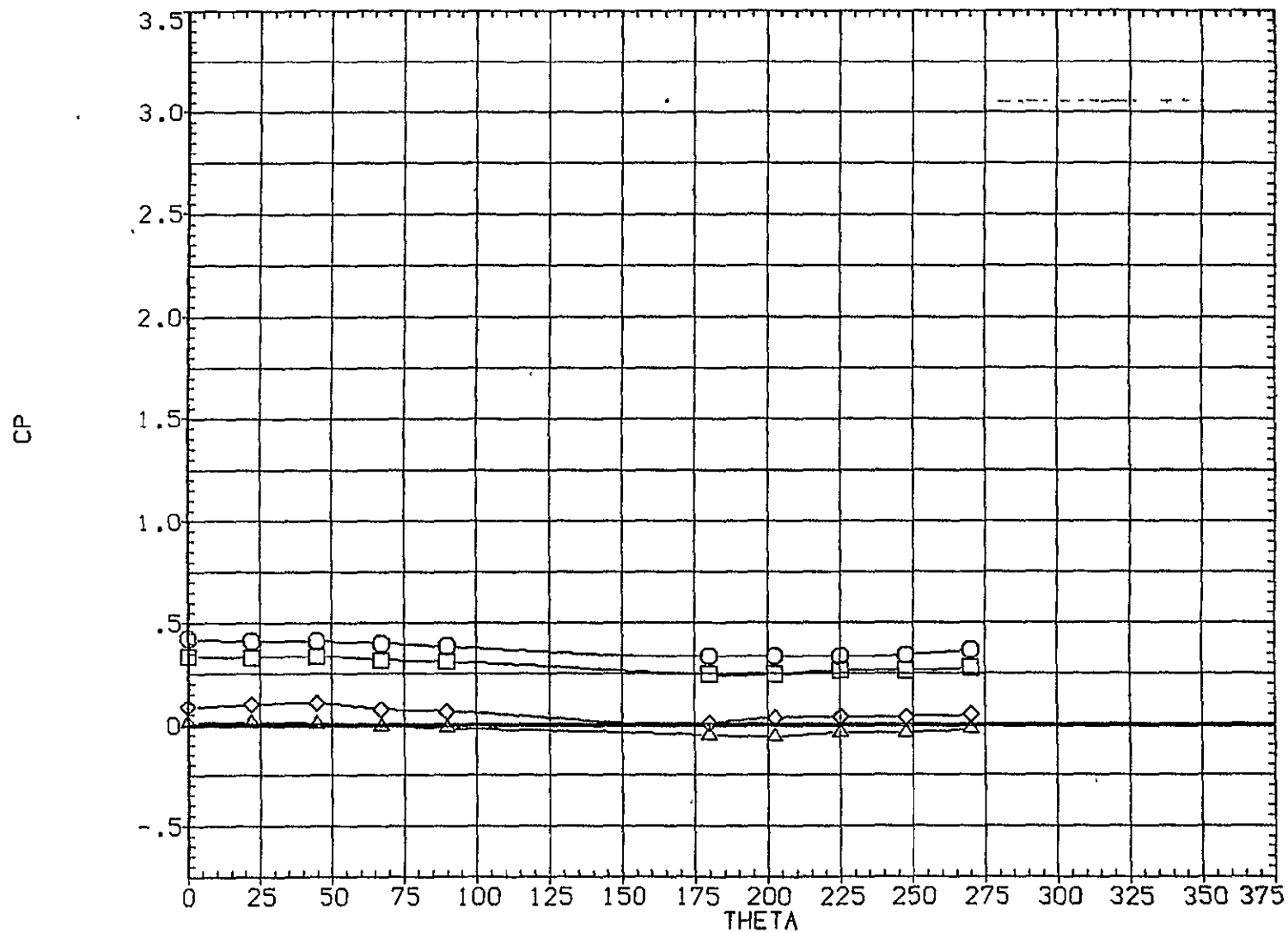
## MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G004)



-EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	-2.040	1.463		.000	.000
□	.131					
◇	.167					
△	.185					

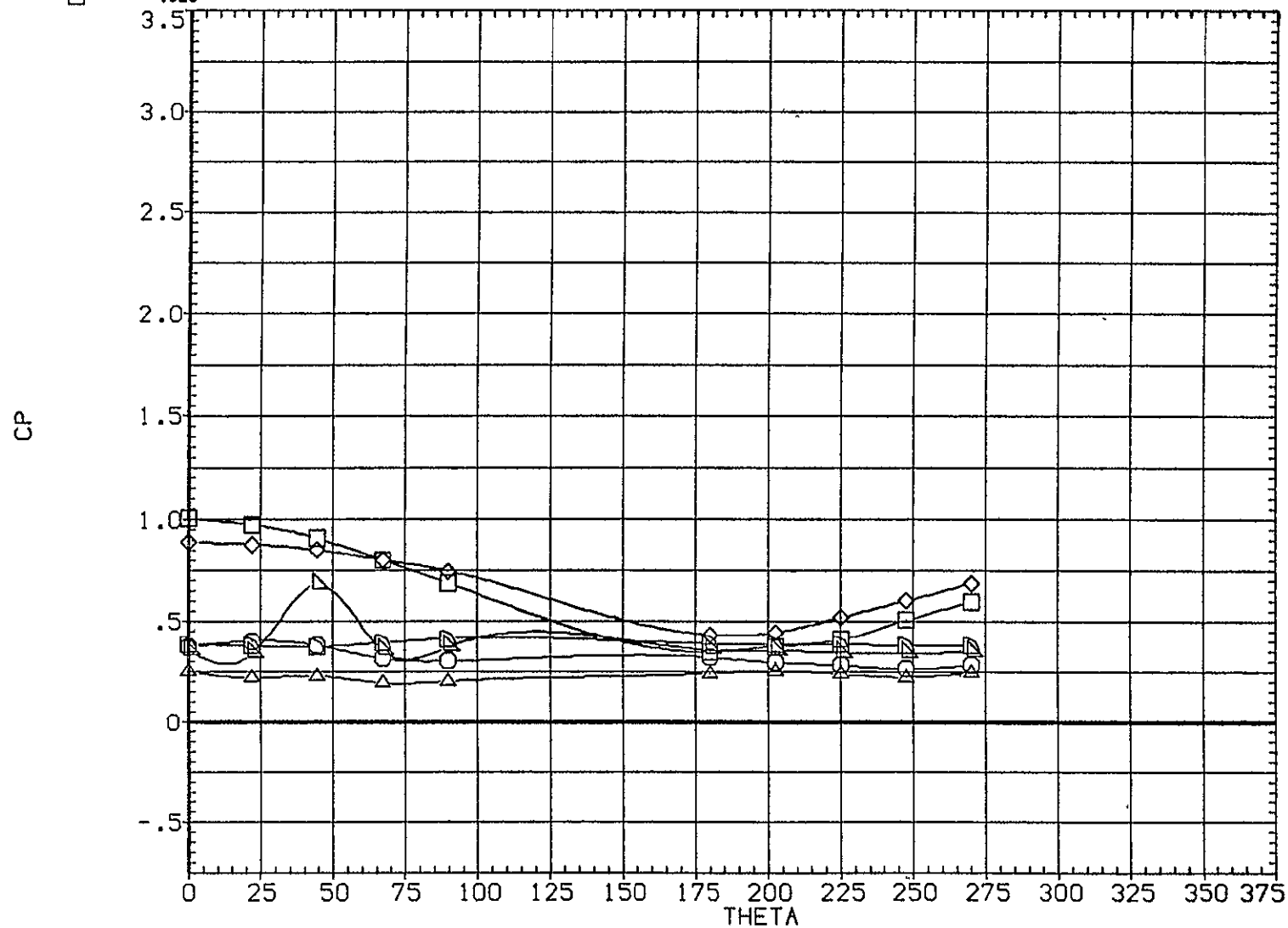


EFFECT OF RADIAL LOCATION ON PRESSURE

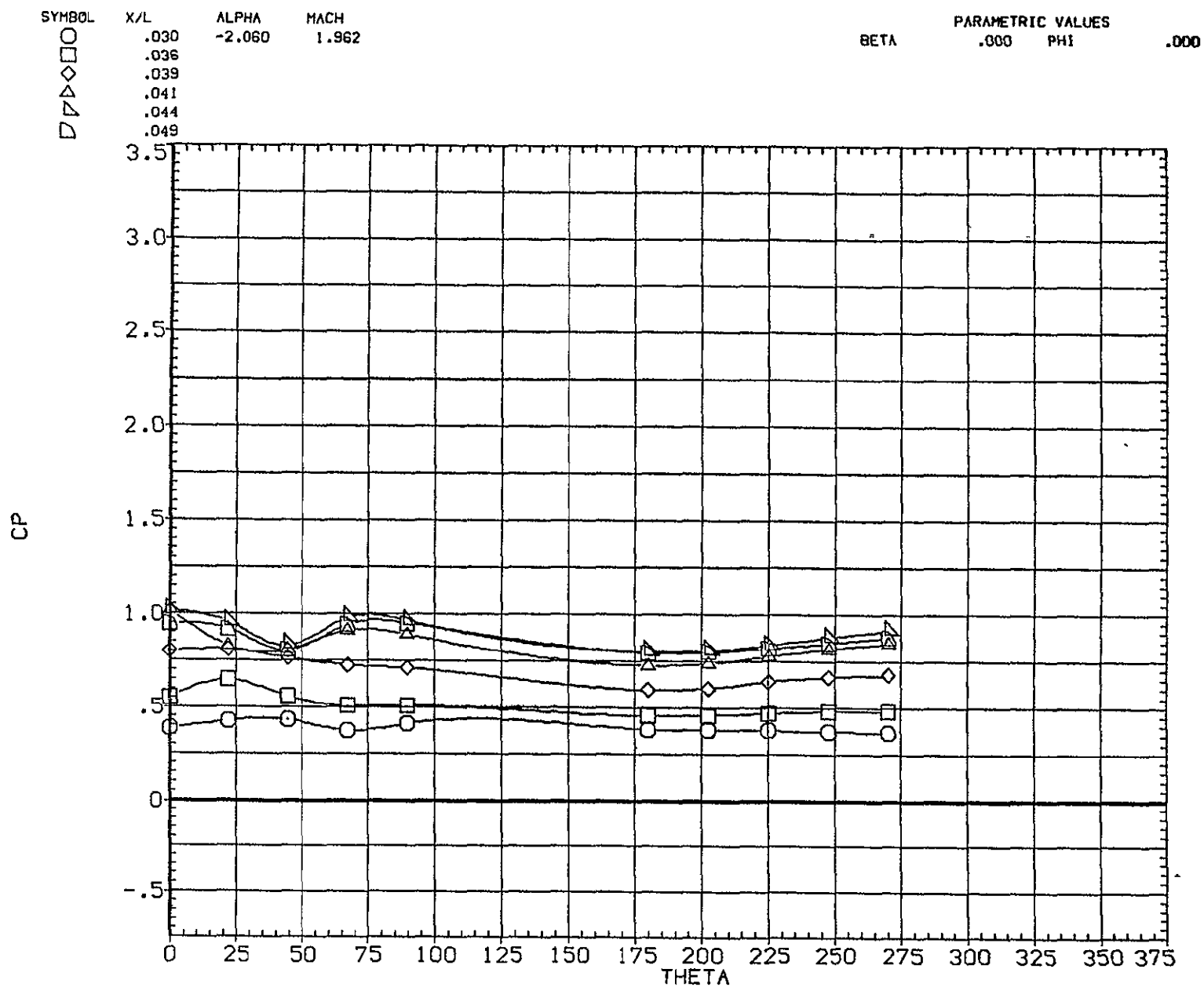
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G004)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-2.060	1.962			
□	.018					
◇	.020					
▽	.022					
△	.025					
▽	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

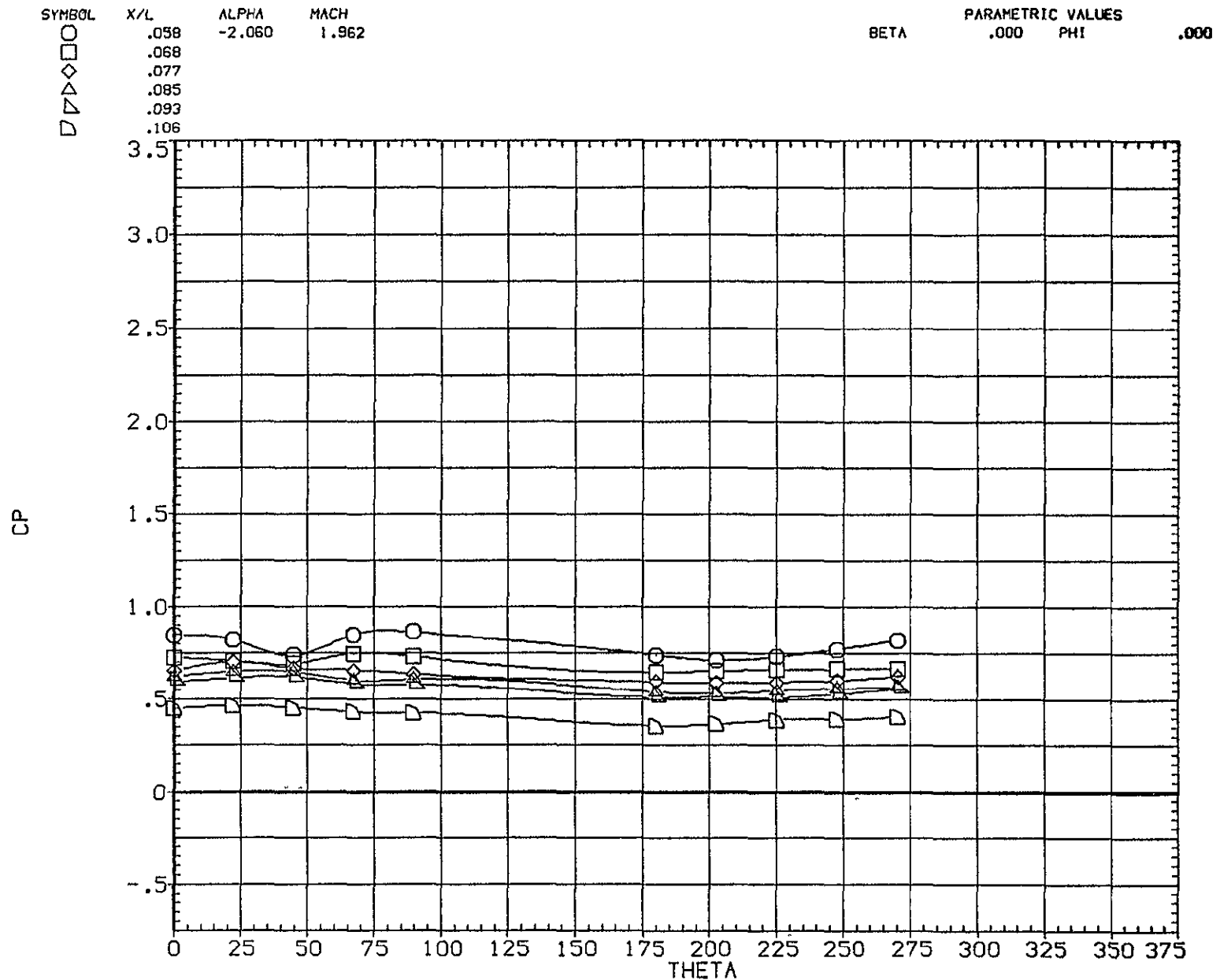


EFFECT OF RADIAL LOCATION ON PRESSURE



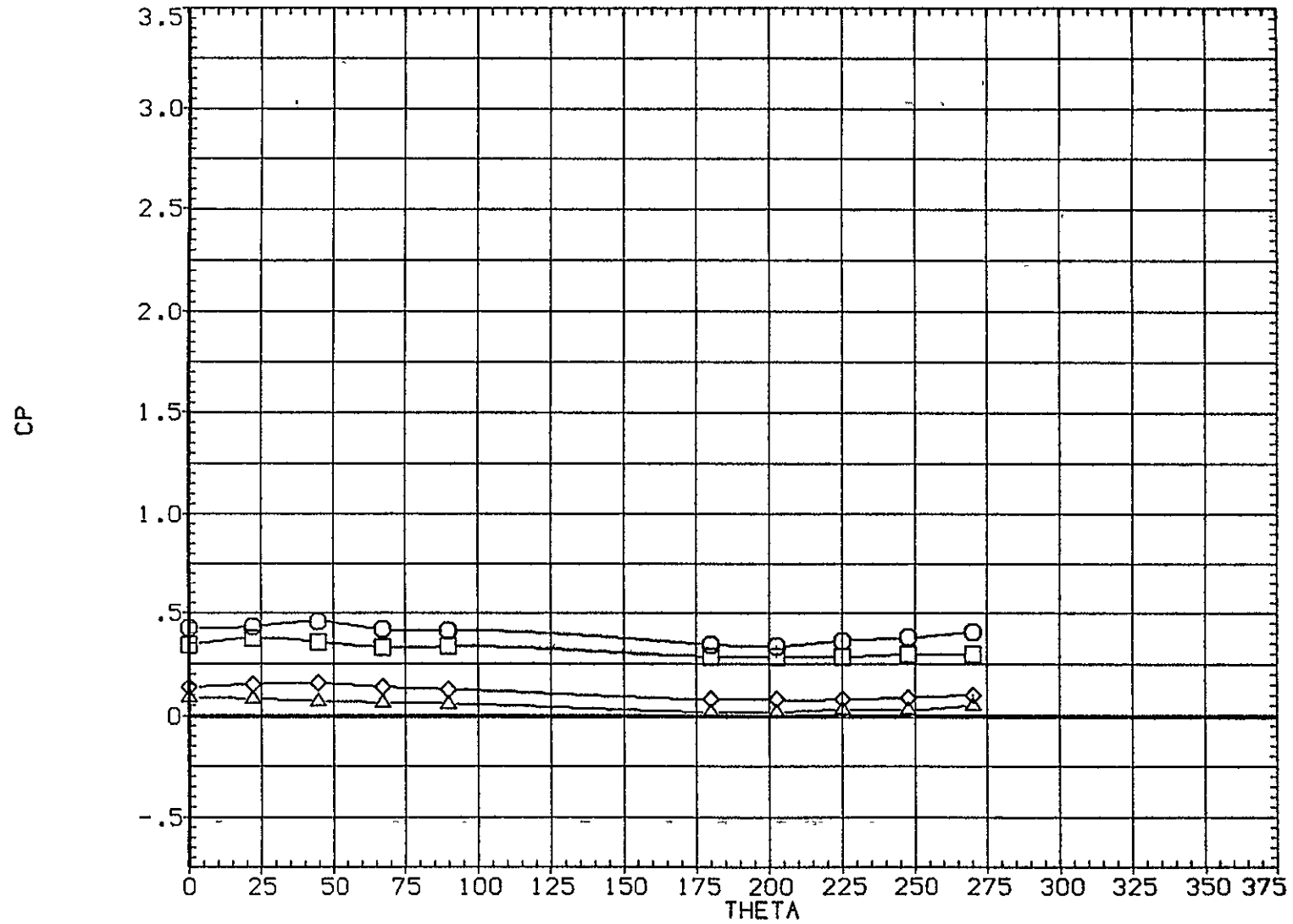
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16004)



EFFECT OF RADIAL LOCATION ON PRESSURE

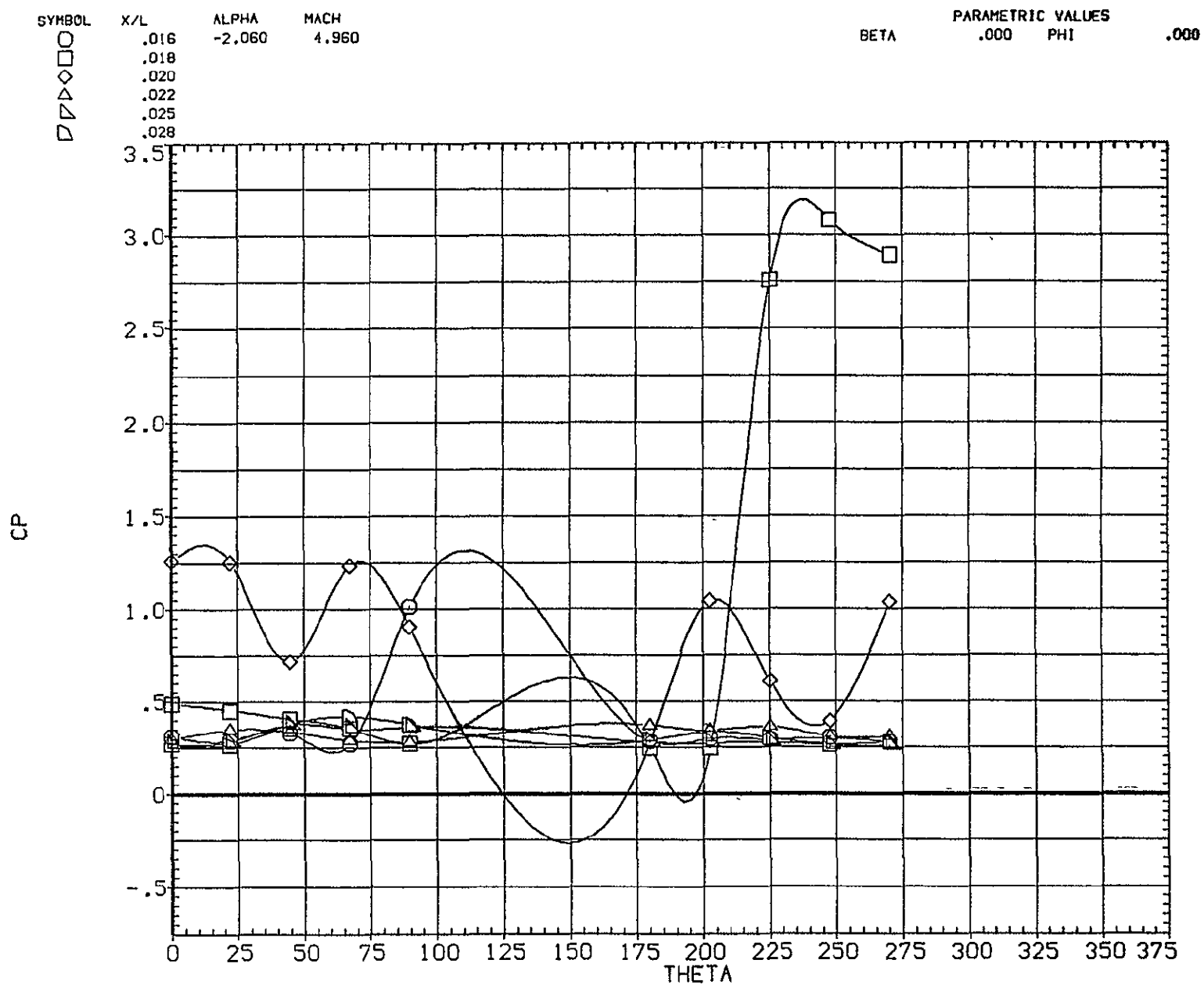
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	-2.060	1.962	.000		.000
□	.131					
◇	.167					
△	.185					



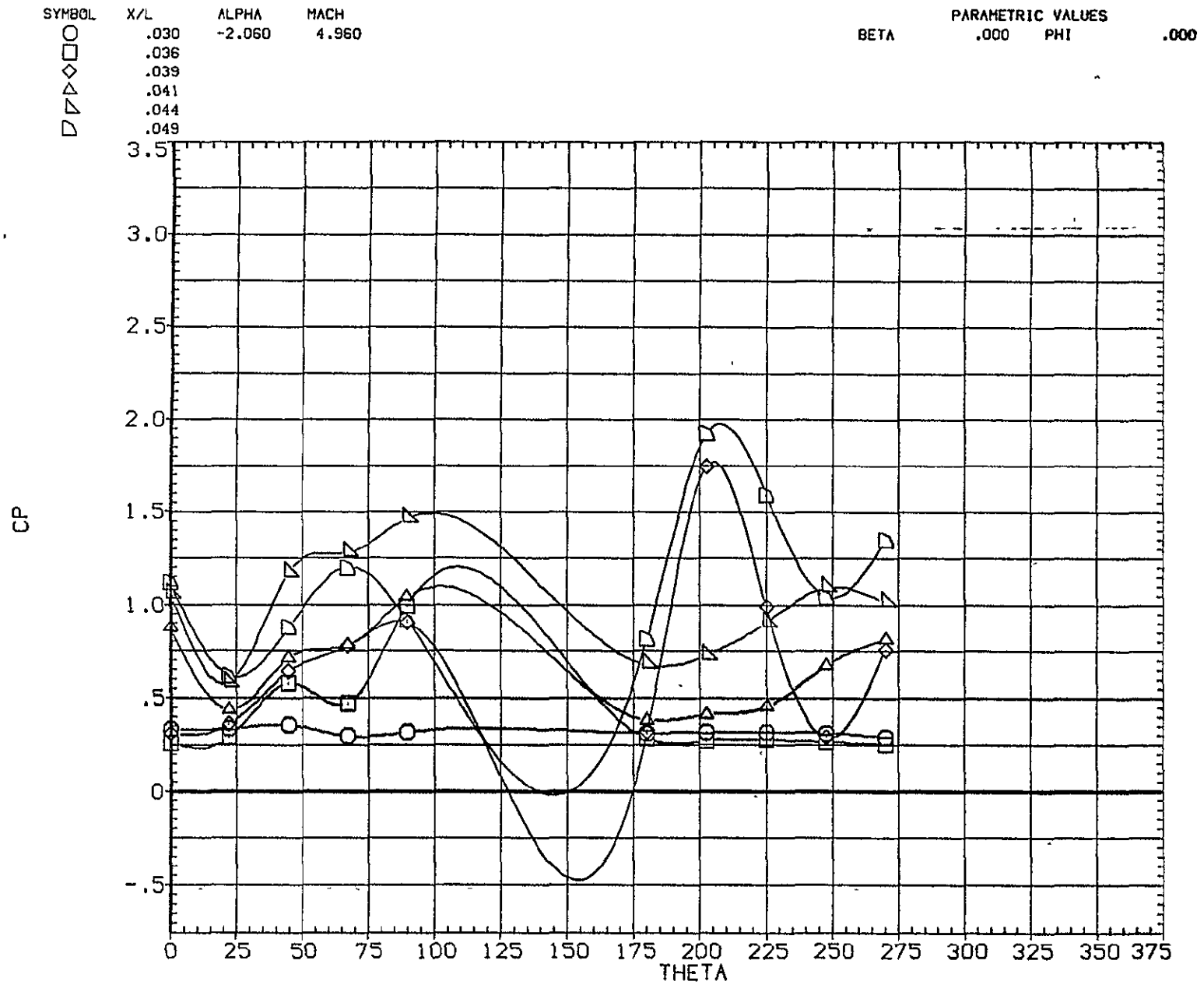
EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16004)



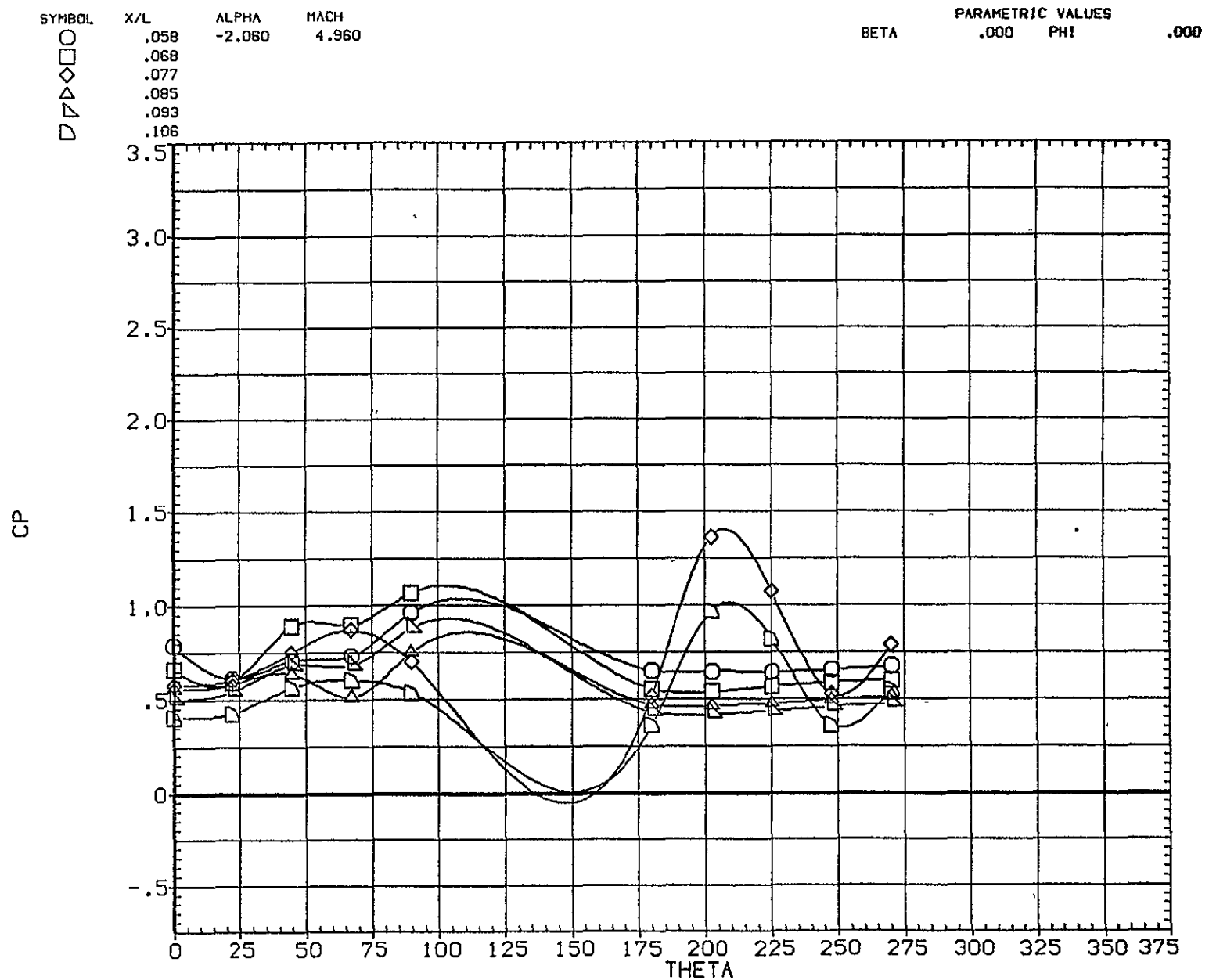
EFFECT OF RADIAL LOCATION ON PRESSURE



EFFECT OF RADIAL LOCATION ON PRESSURE

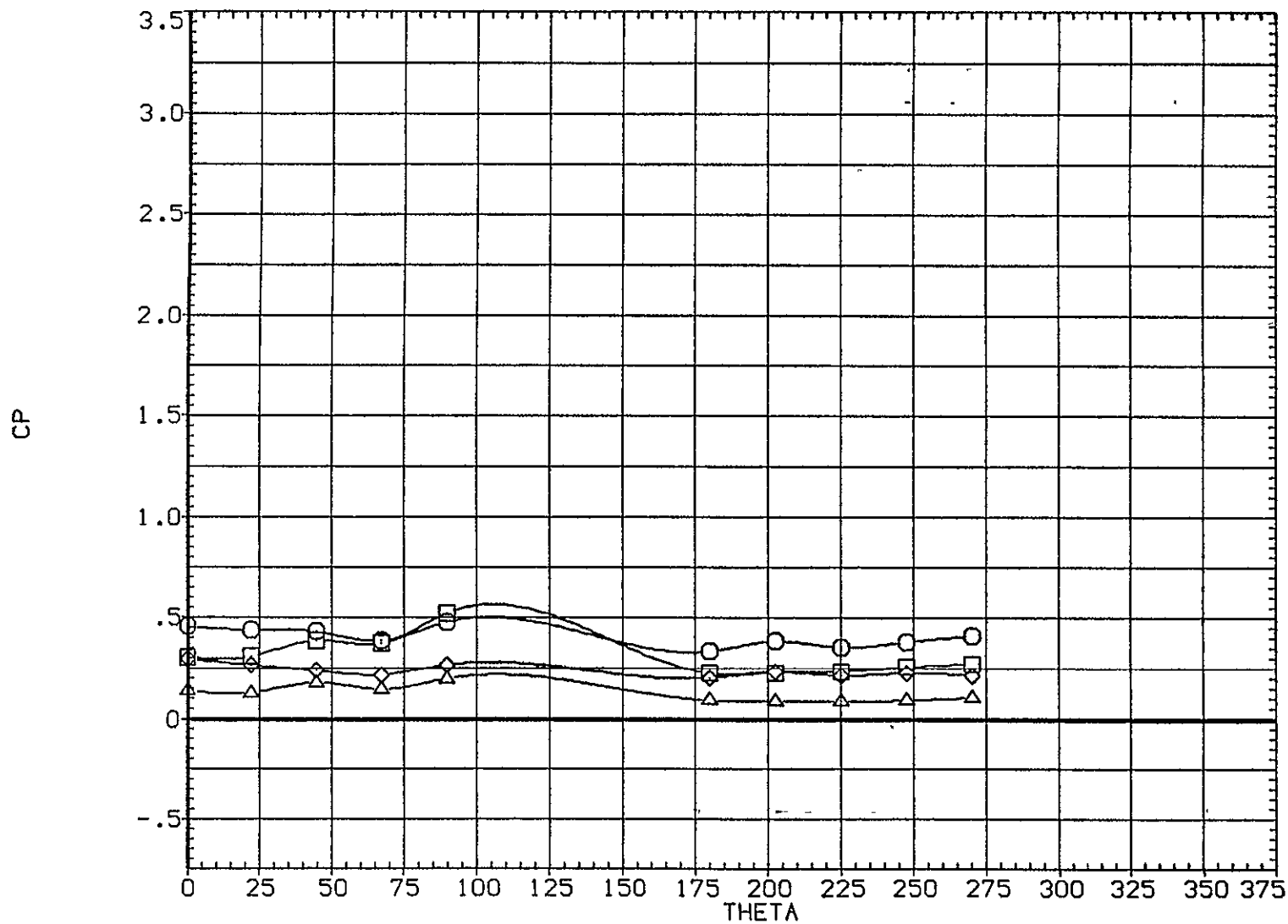
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G004)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	-2.060	4.960			
□	.131					
◇	.167					
△	.185					

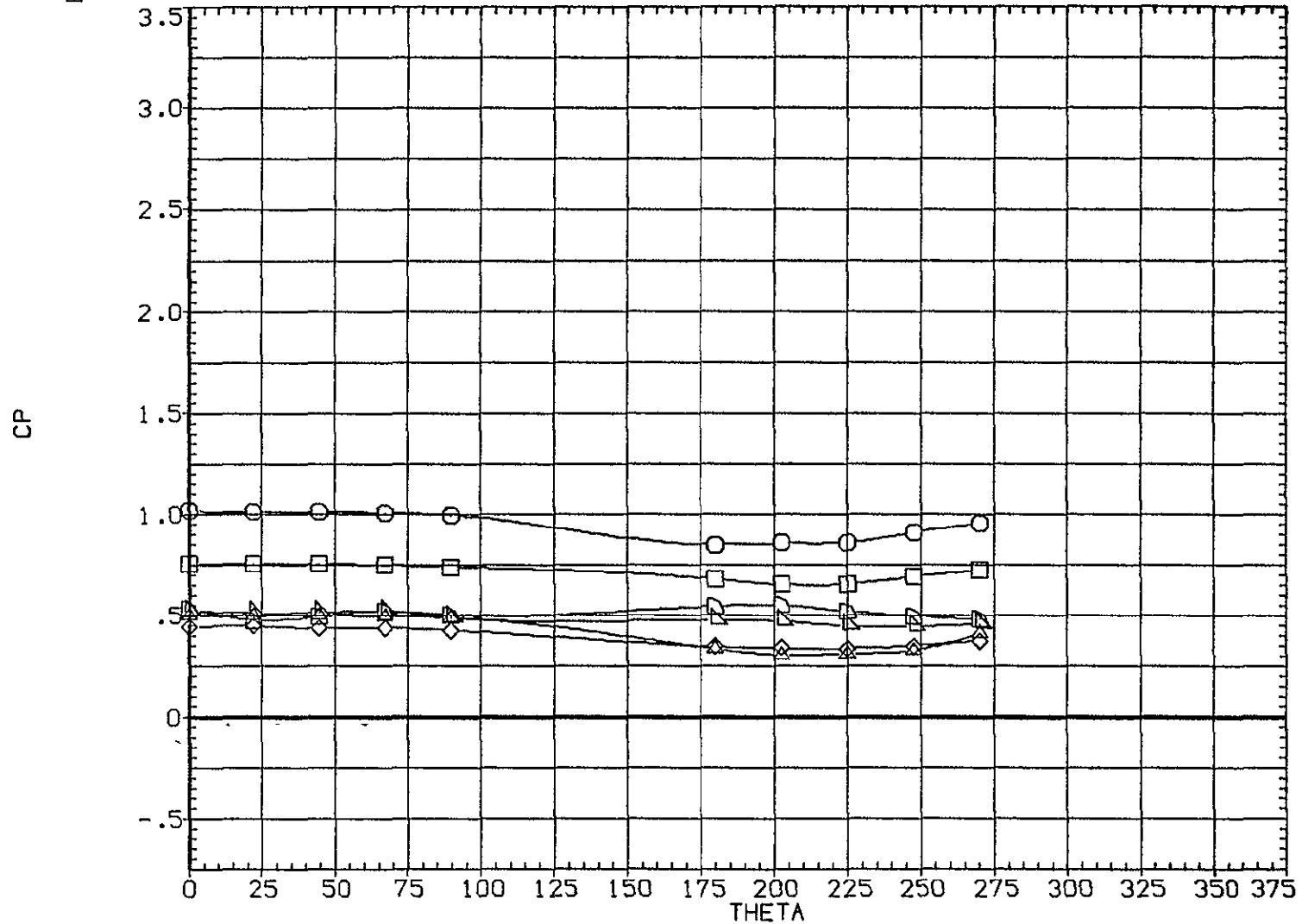


EFFECT OF RADIAL LOCATION ON PRESSURE

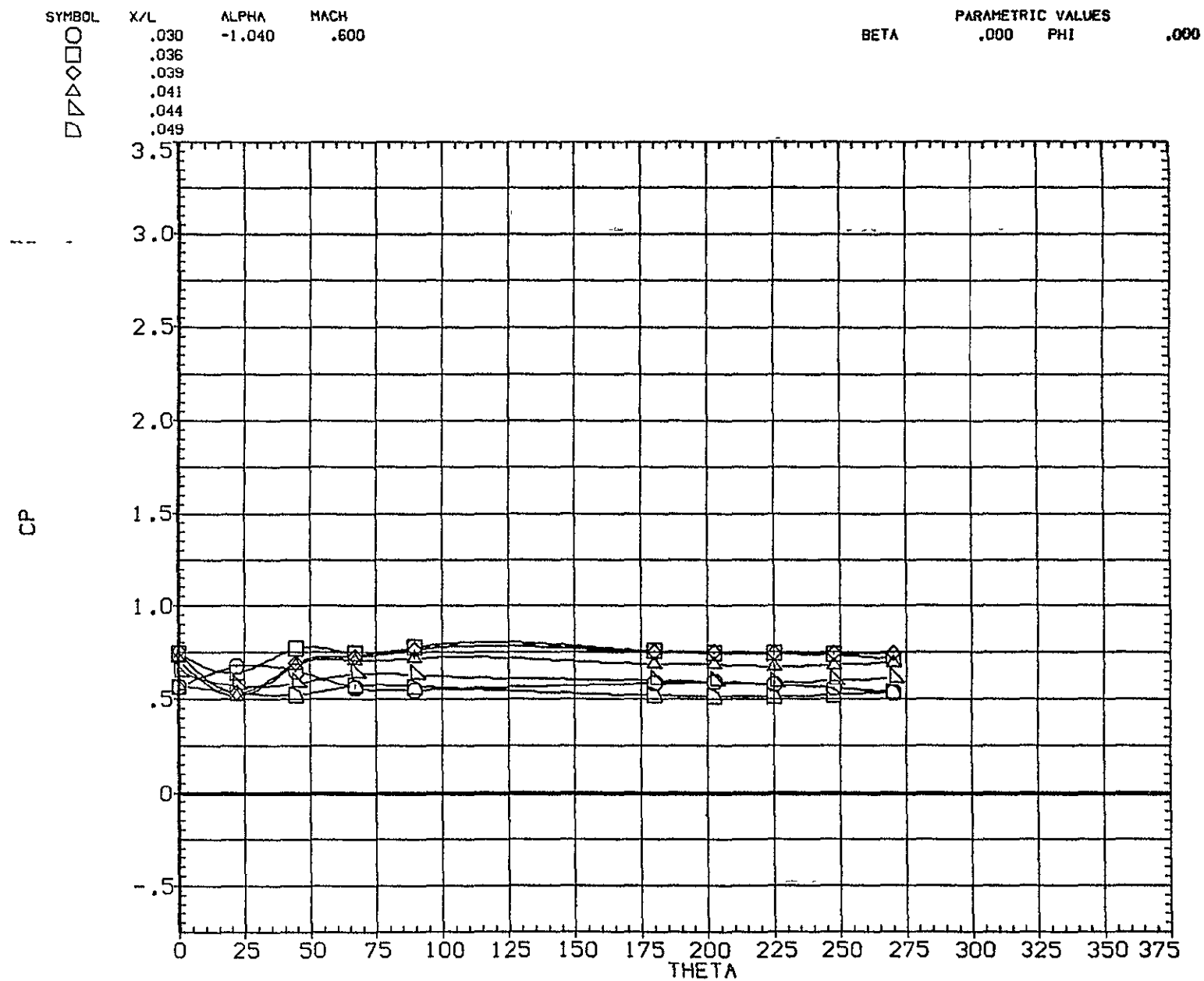
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16005)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-1.040	.600			
□	.018					
◇	.020					
△	.022					
▽	.025					
◁	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE



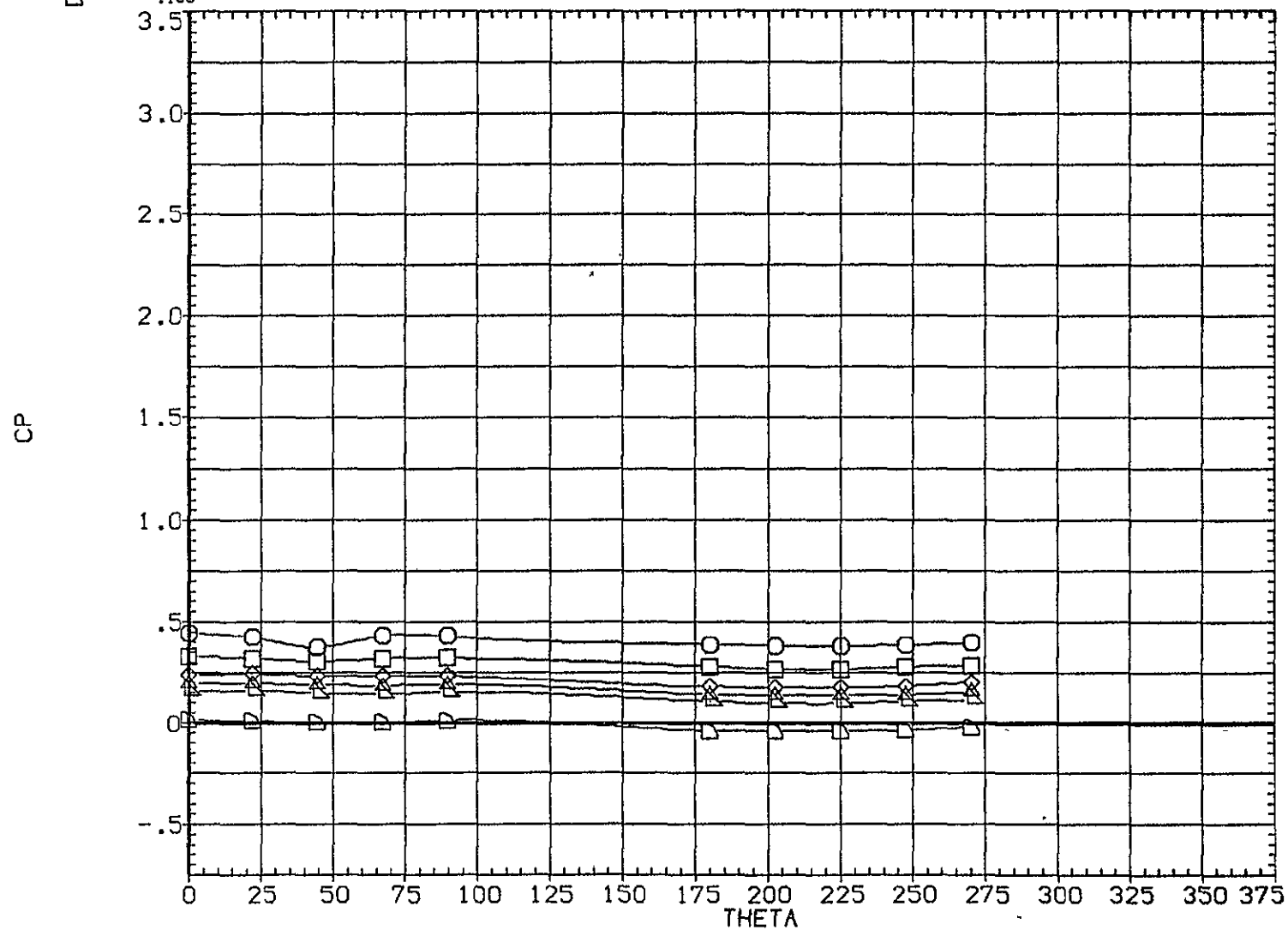
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

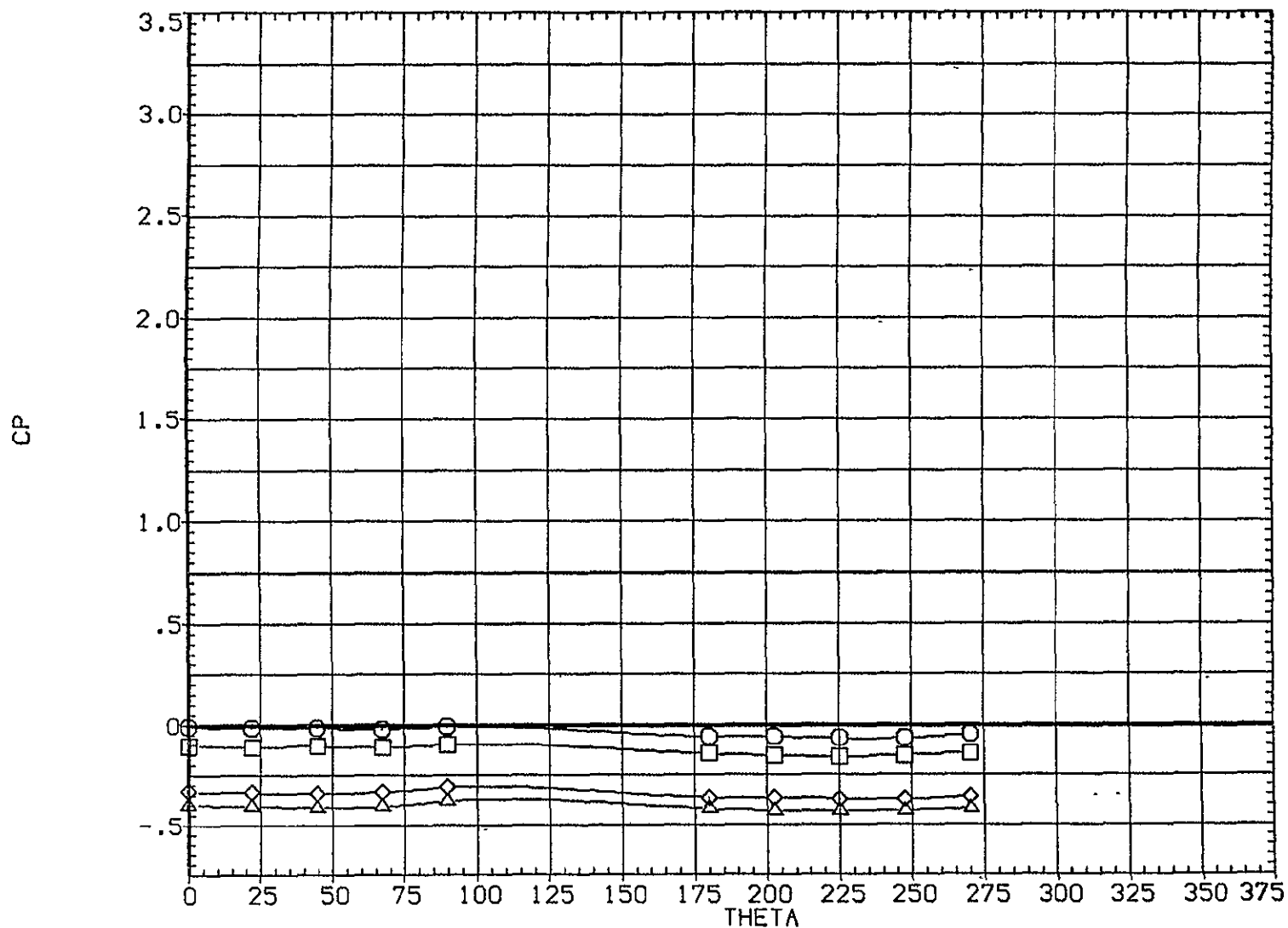
(B16005)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-1.040	.600			
□	.068	.				
◇	.077					
△	.085					
▽	.093					
◻	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

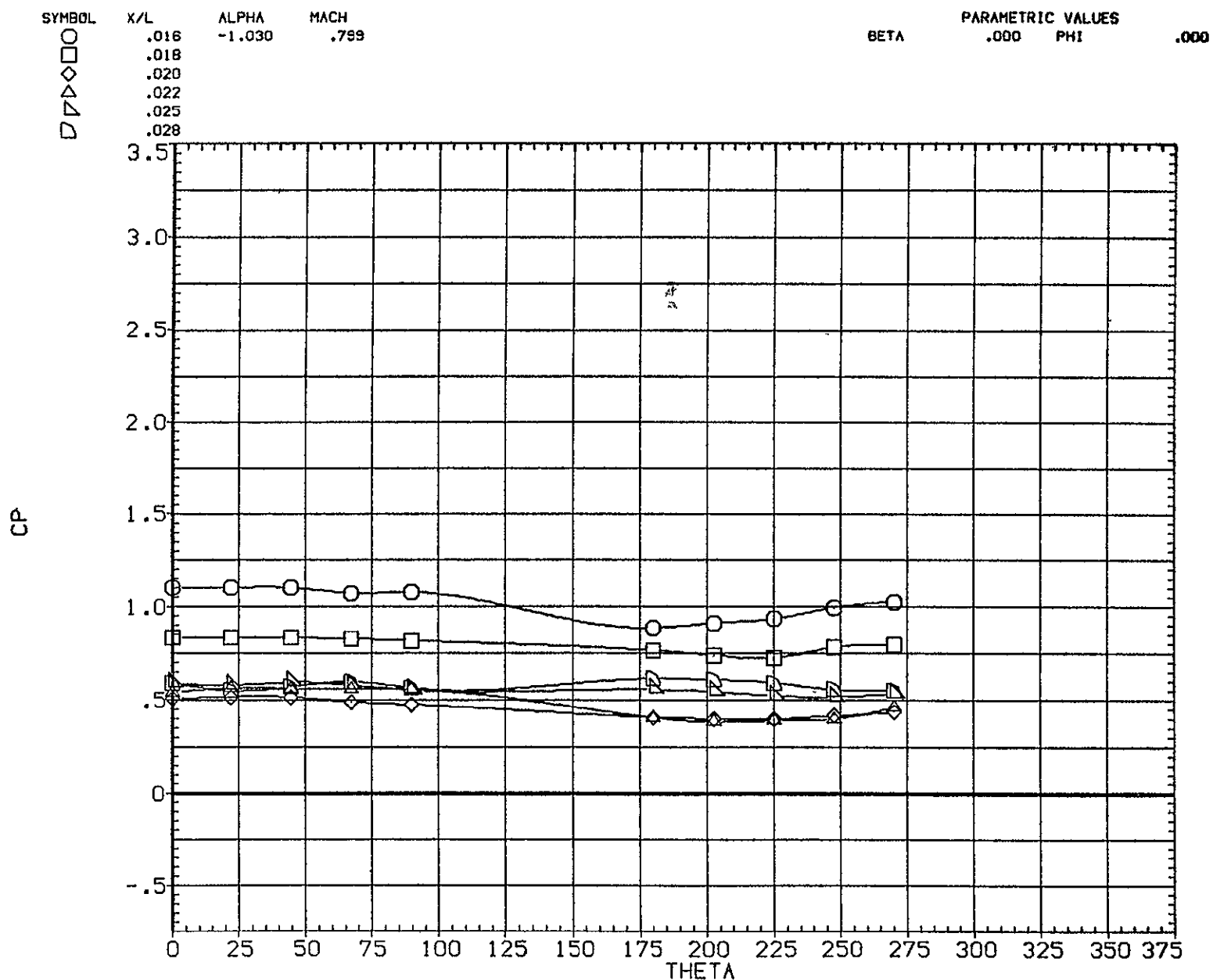
SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.000
○	.118	-1.040	.600				
□	.131						
◇	.167						
△	.185						



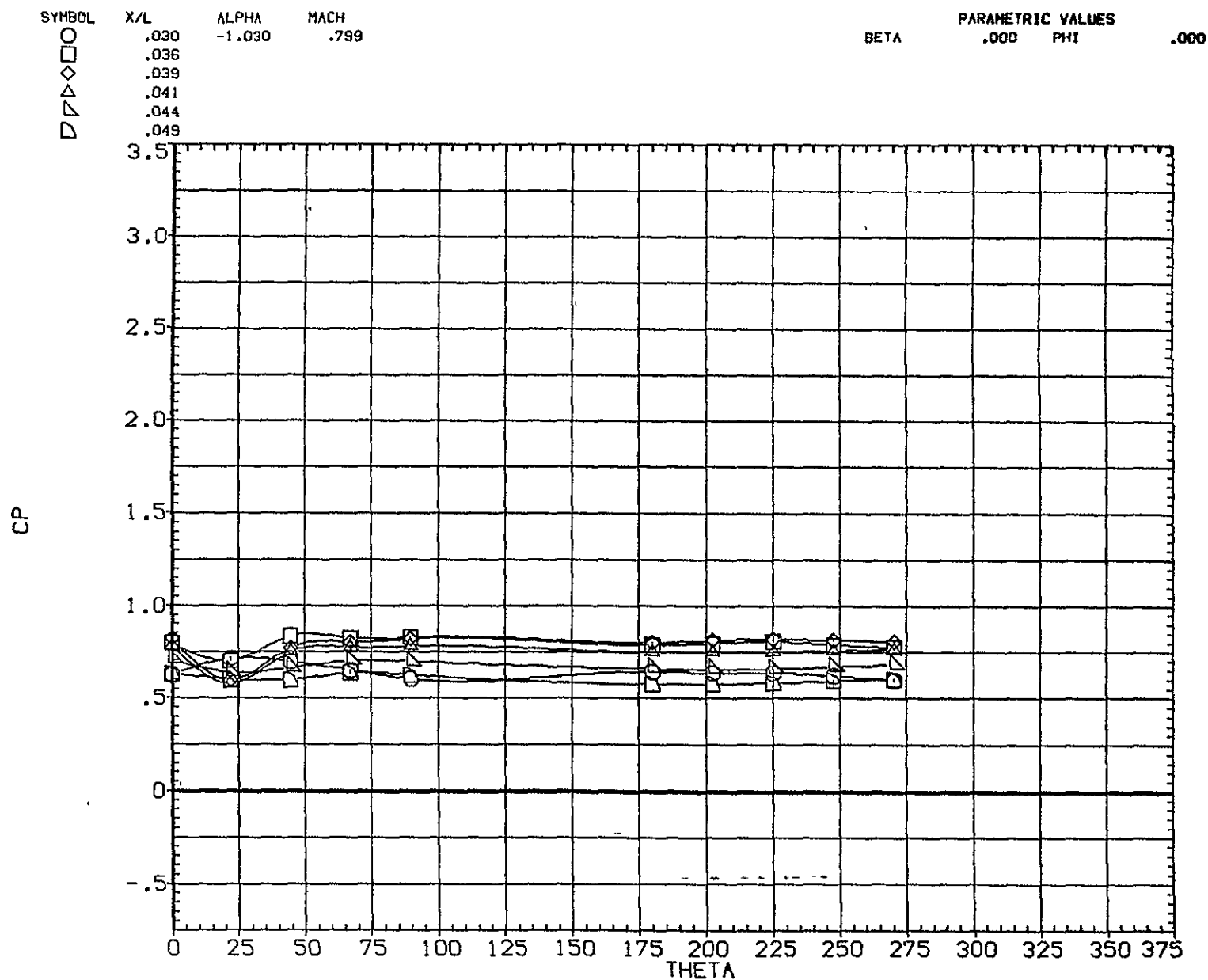
EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G005)



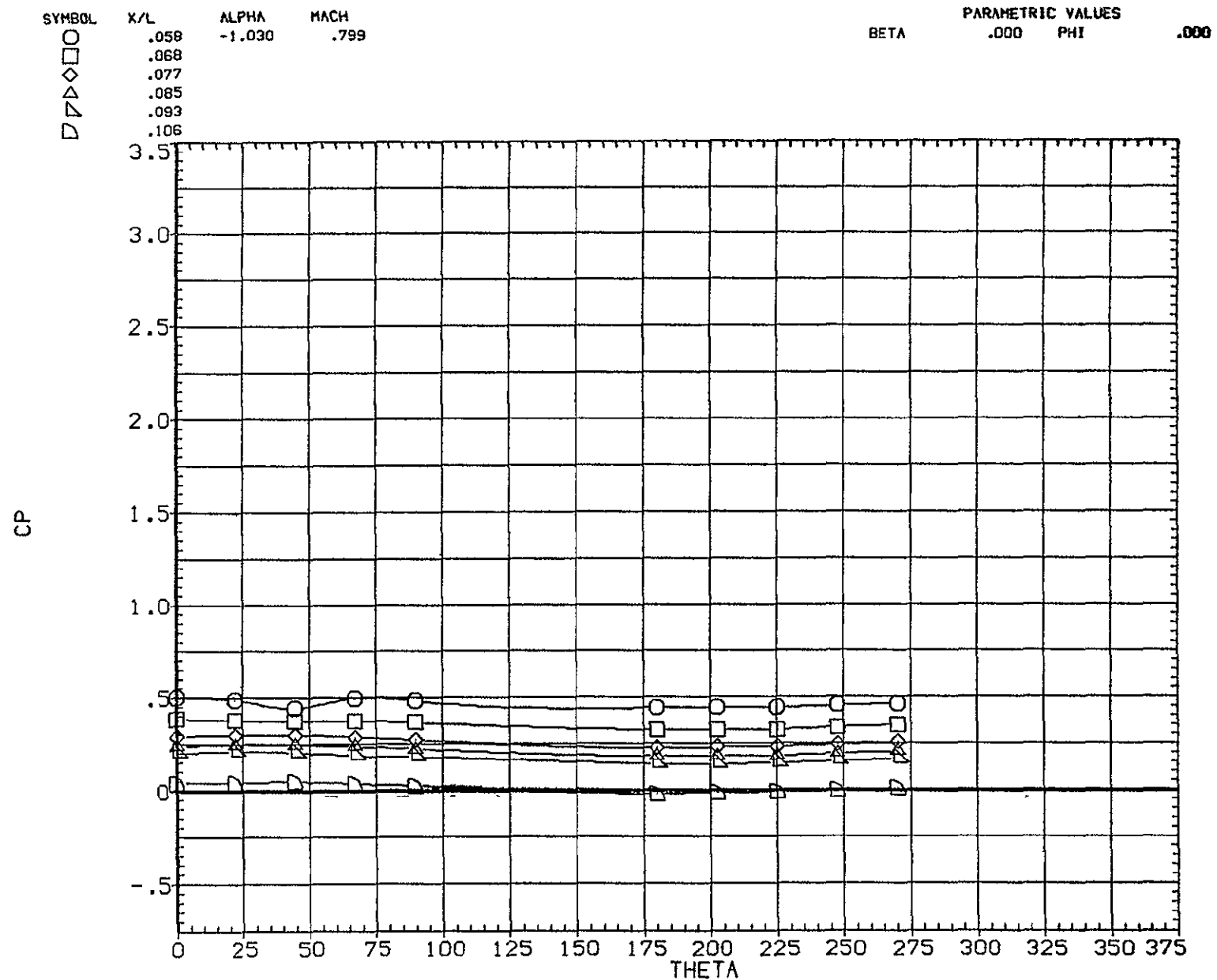
EFFECT OF RADIAL LOCATION ON PRESSURE



EFFECT OF RADIAL LOCATION ON PRESSURE

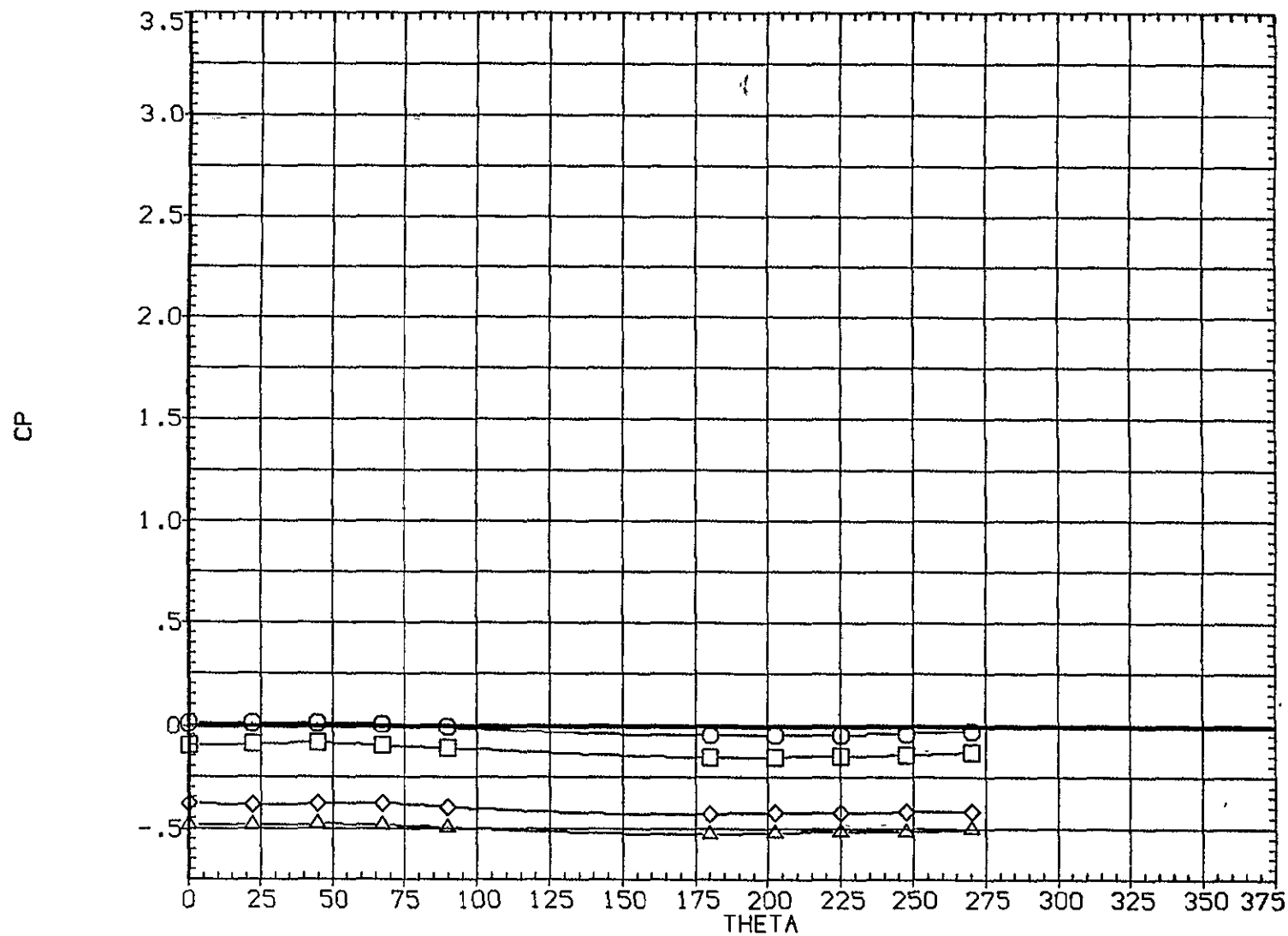
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G005)



EFFECT OF RADIAL LOCATION ON PRESSURE

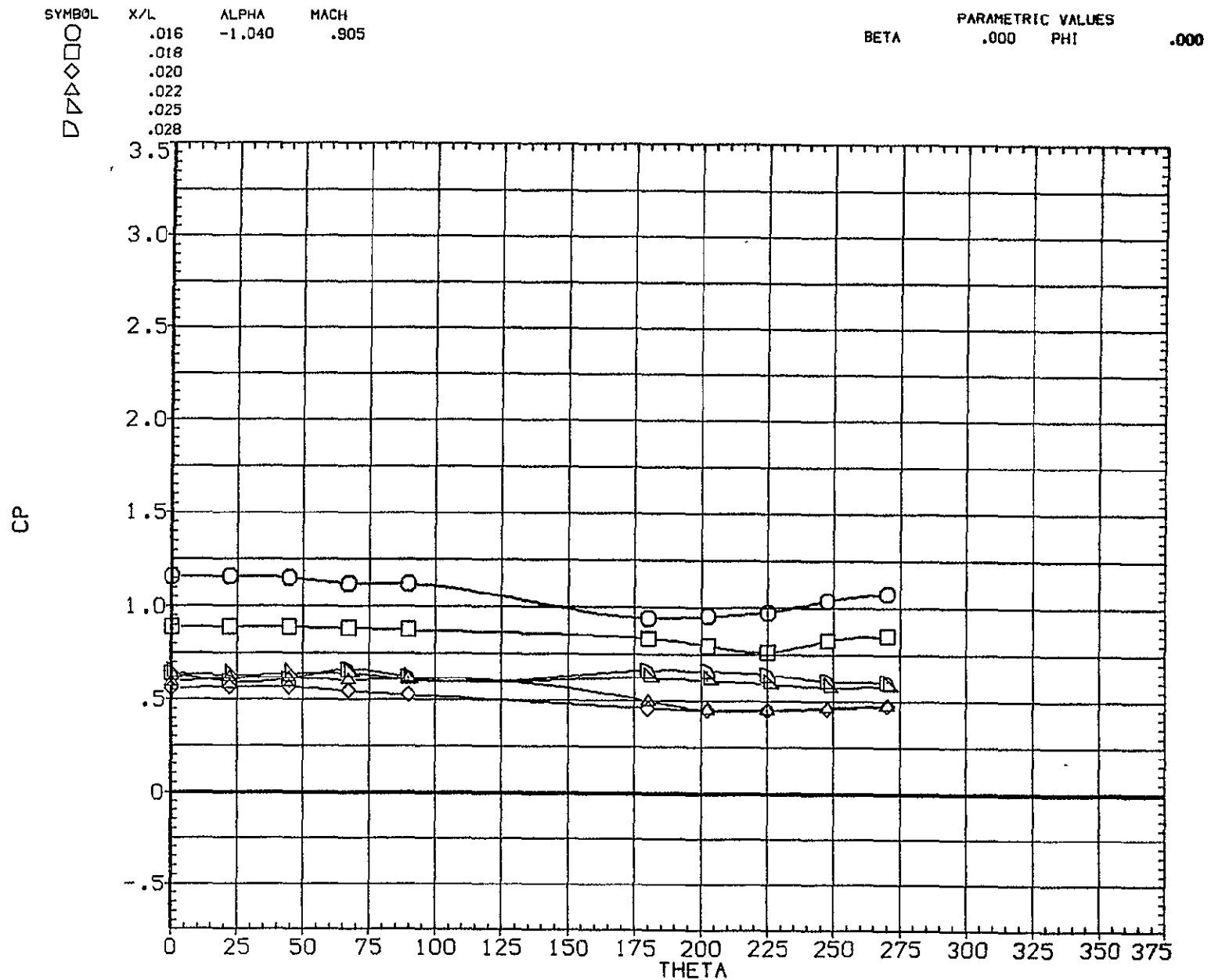
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	-1.030	.799			
□	.131					
◇	.167					
△	.185					



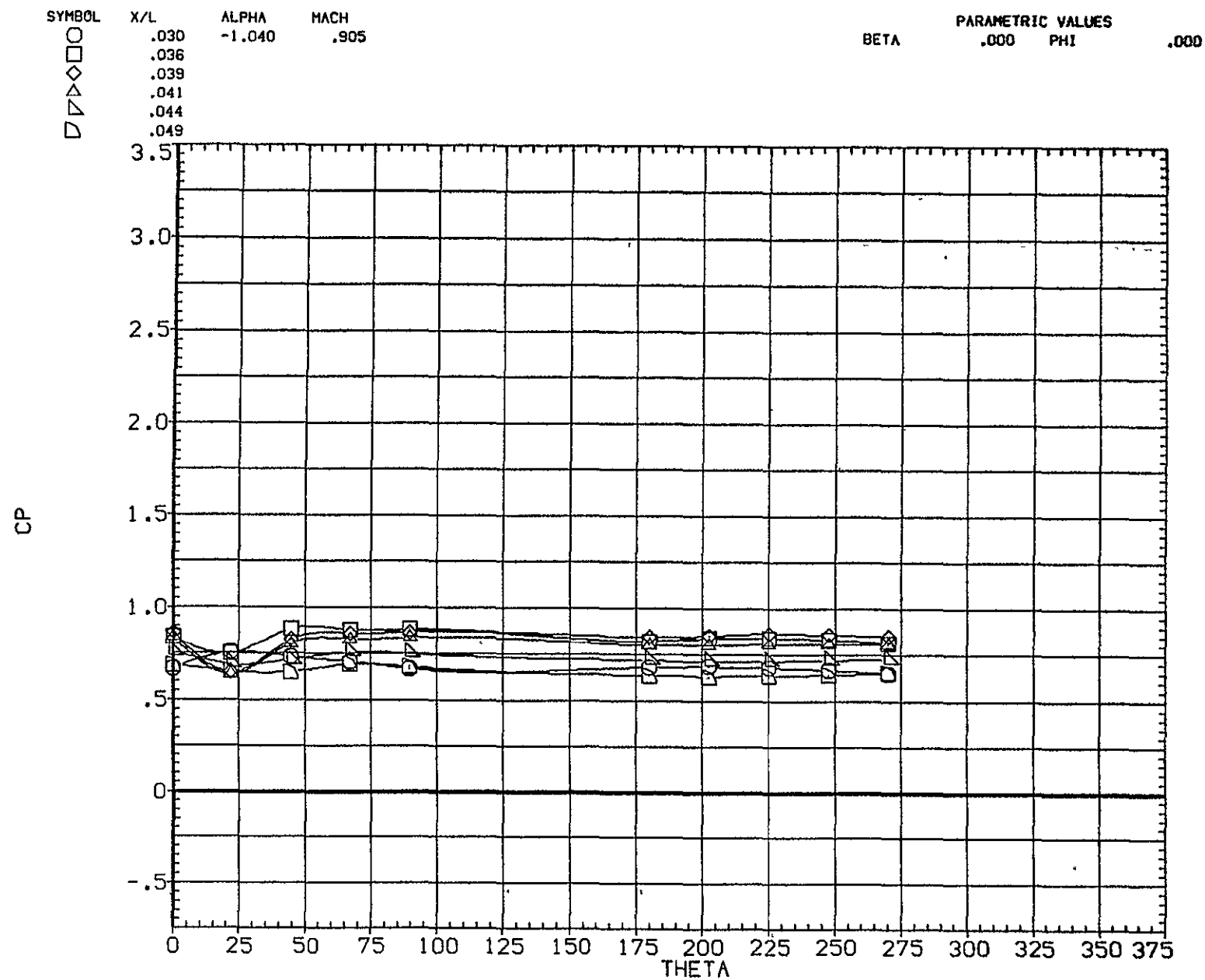
EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G005)



EFFECT OF RADIAL LOCATION ON PRESSURE



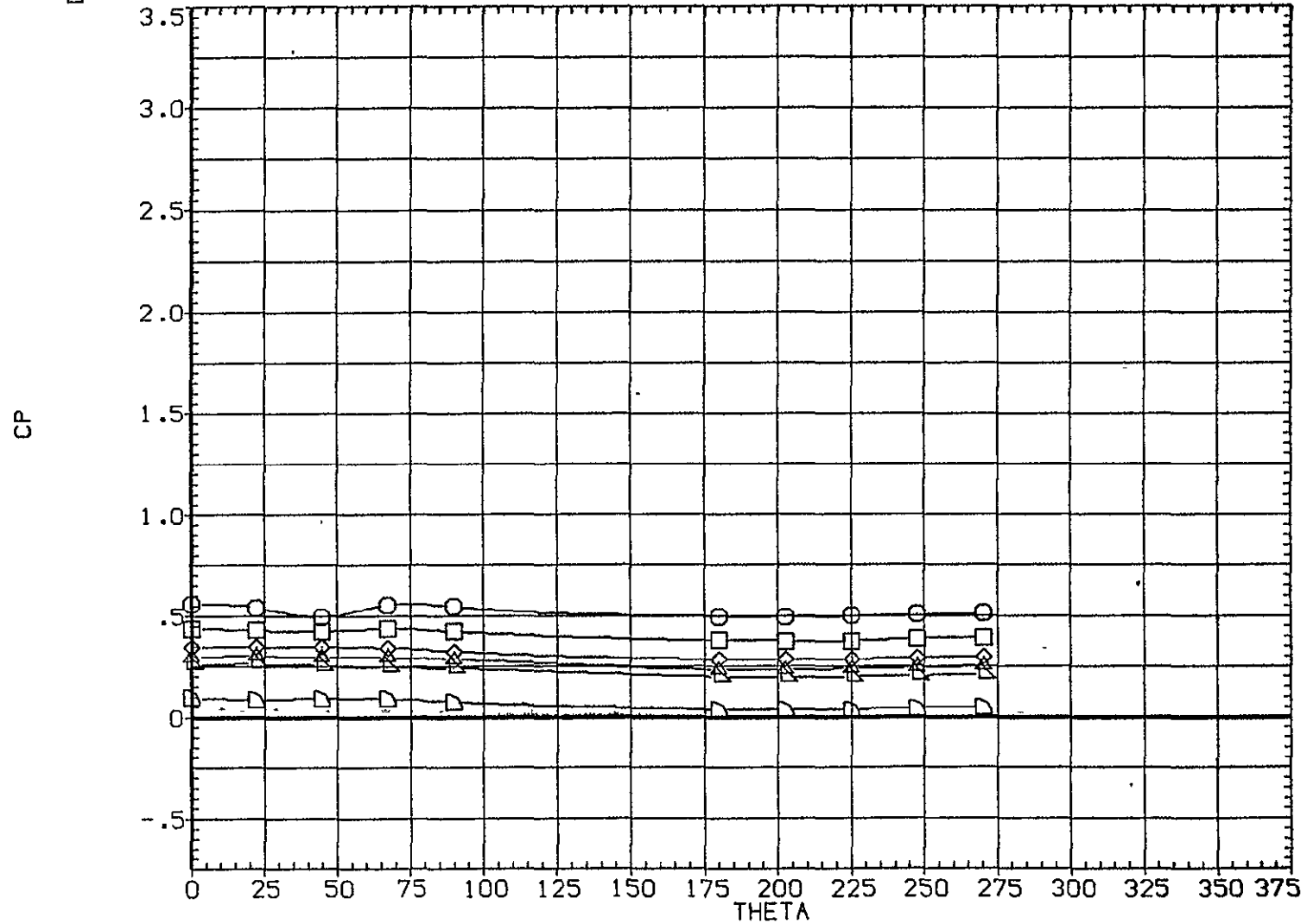
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

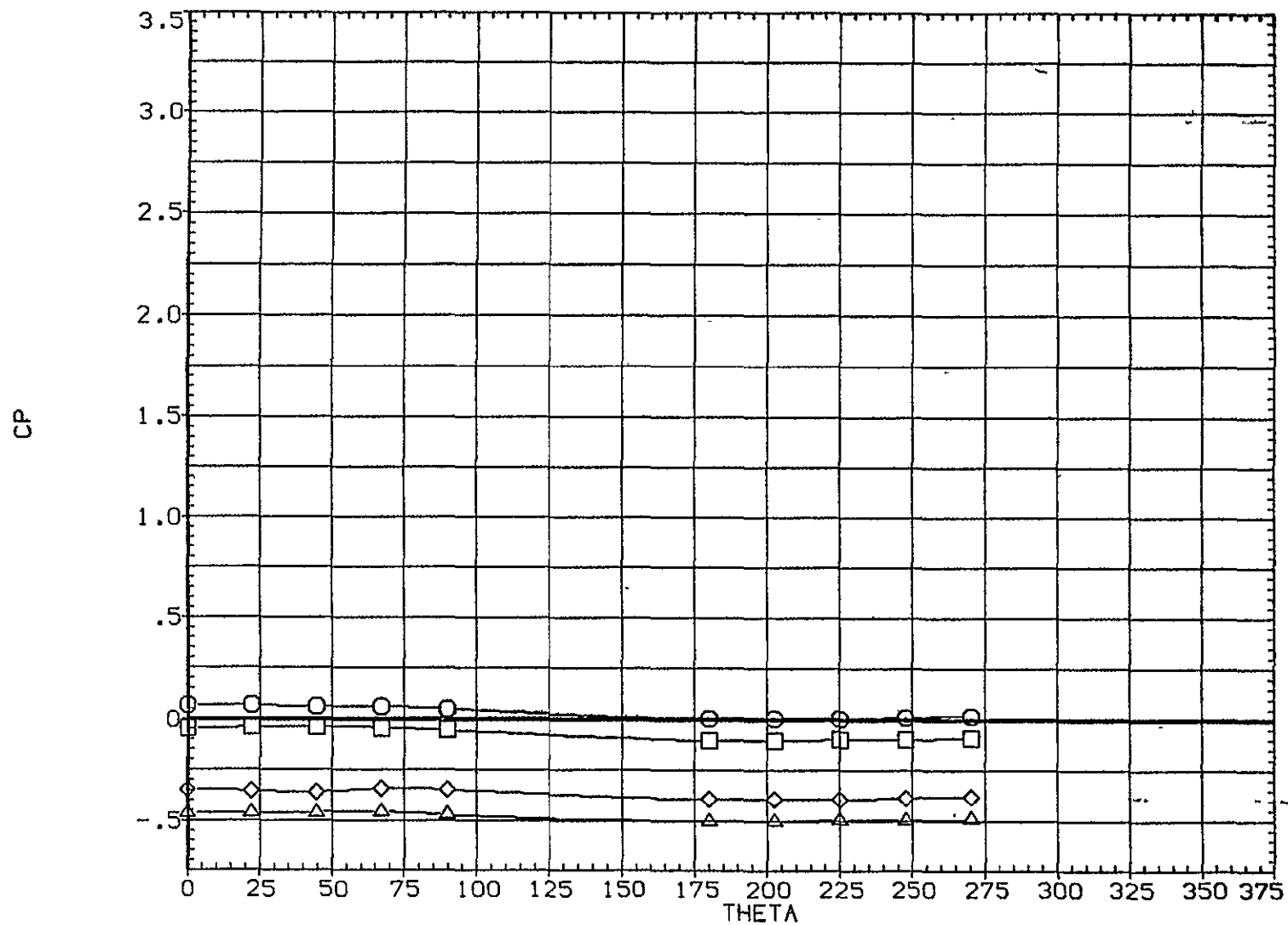
(B16005)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-1.040	.905			
□	.068					
◇	.077					
△	.085					
▽	.093					
◻	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

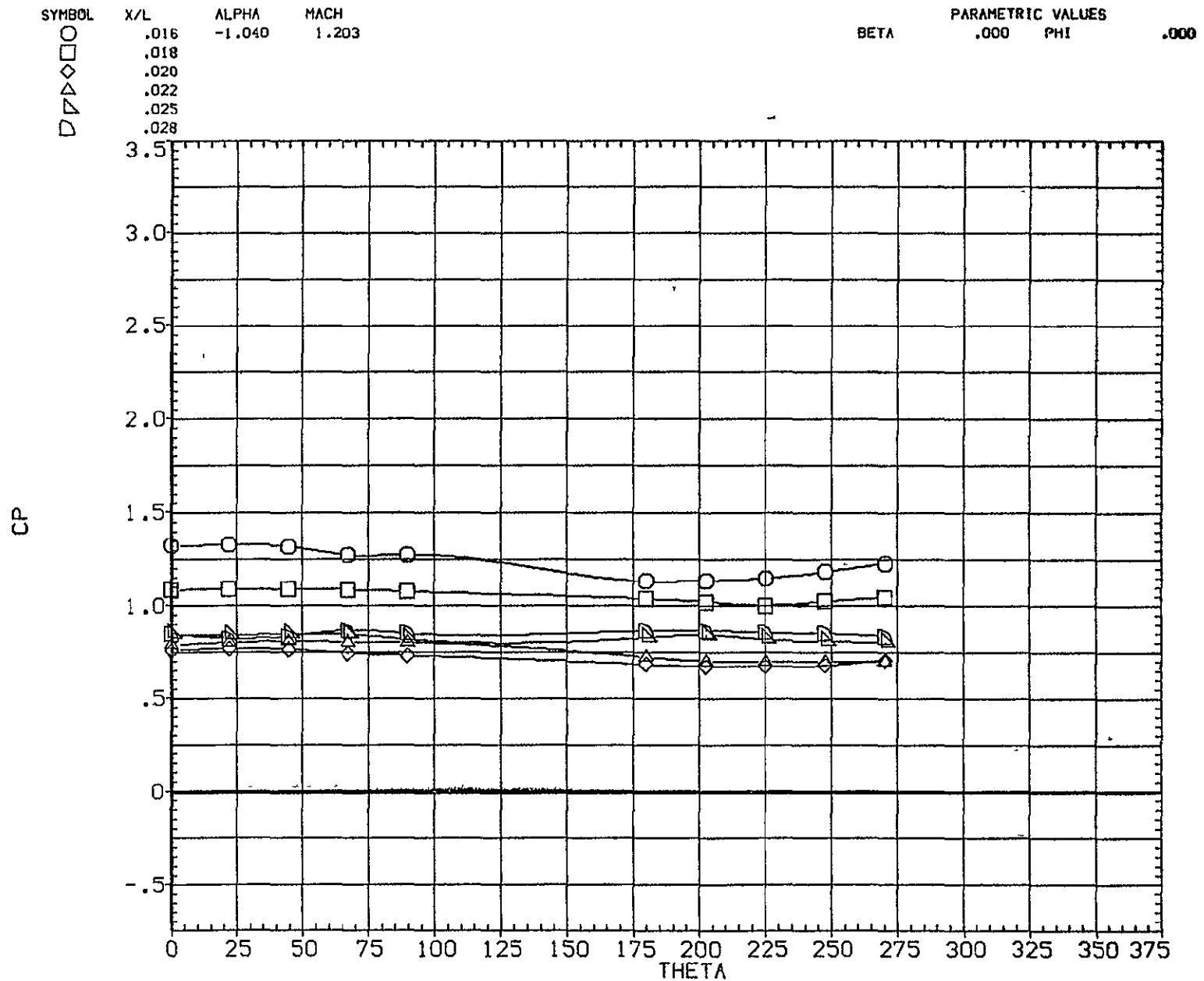
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	-1.040	.905		.000	.000
□	.131					
◇	.167					
△	.185					



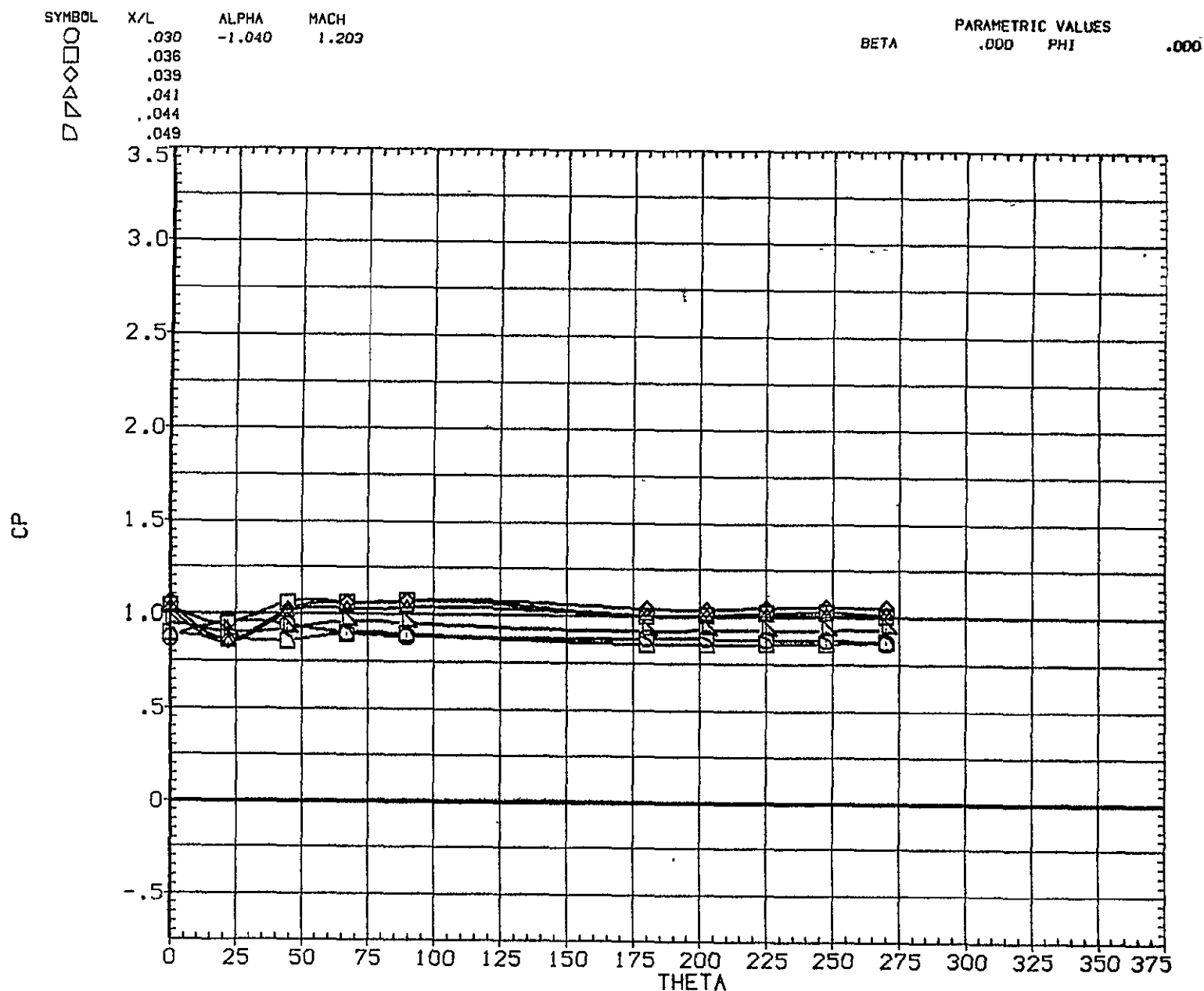
EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G005)



EFFECT OF RADIAL LOCATION ON PRESSURE

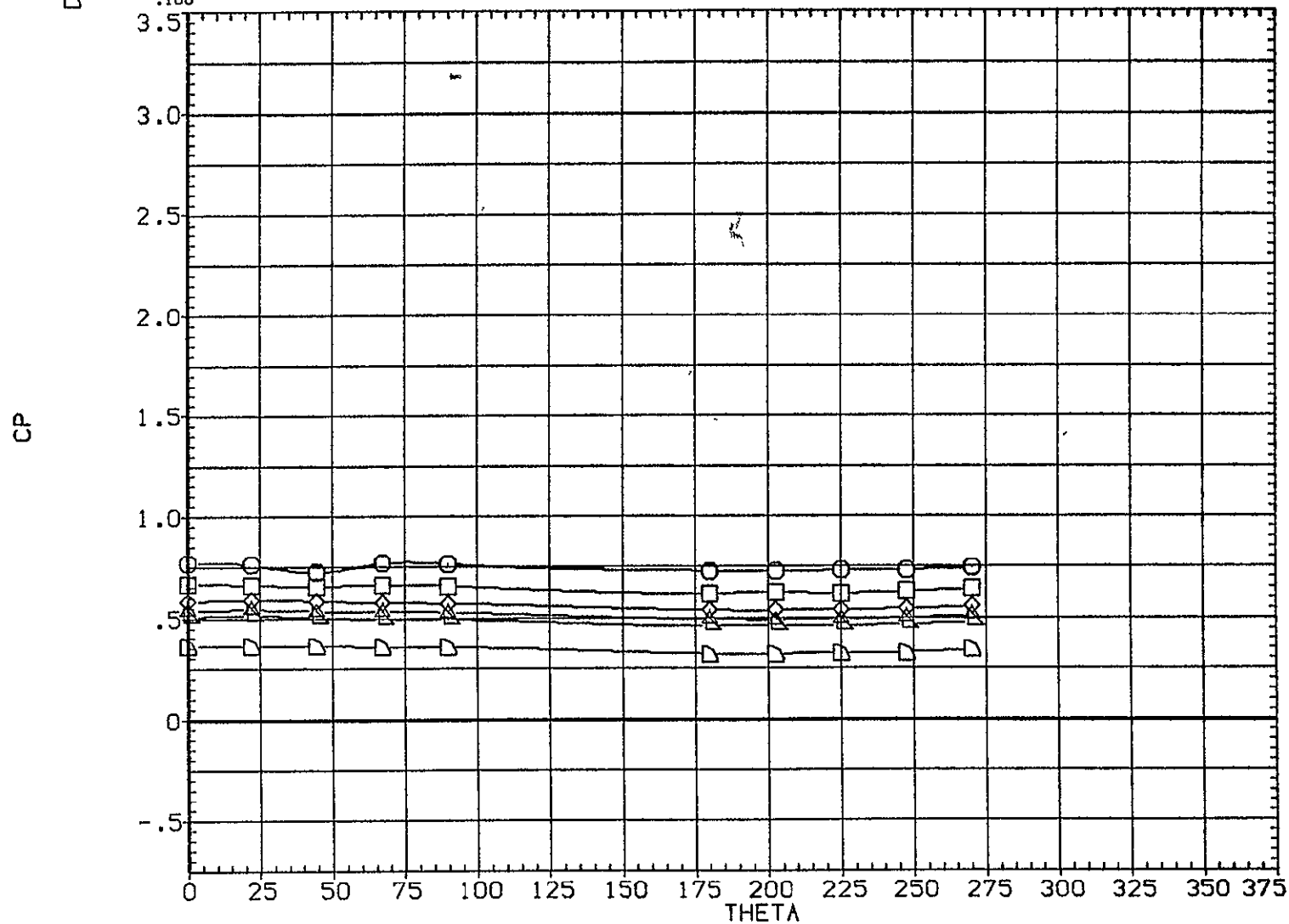


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

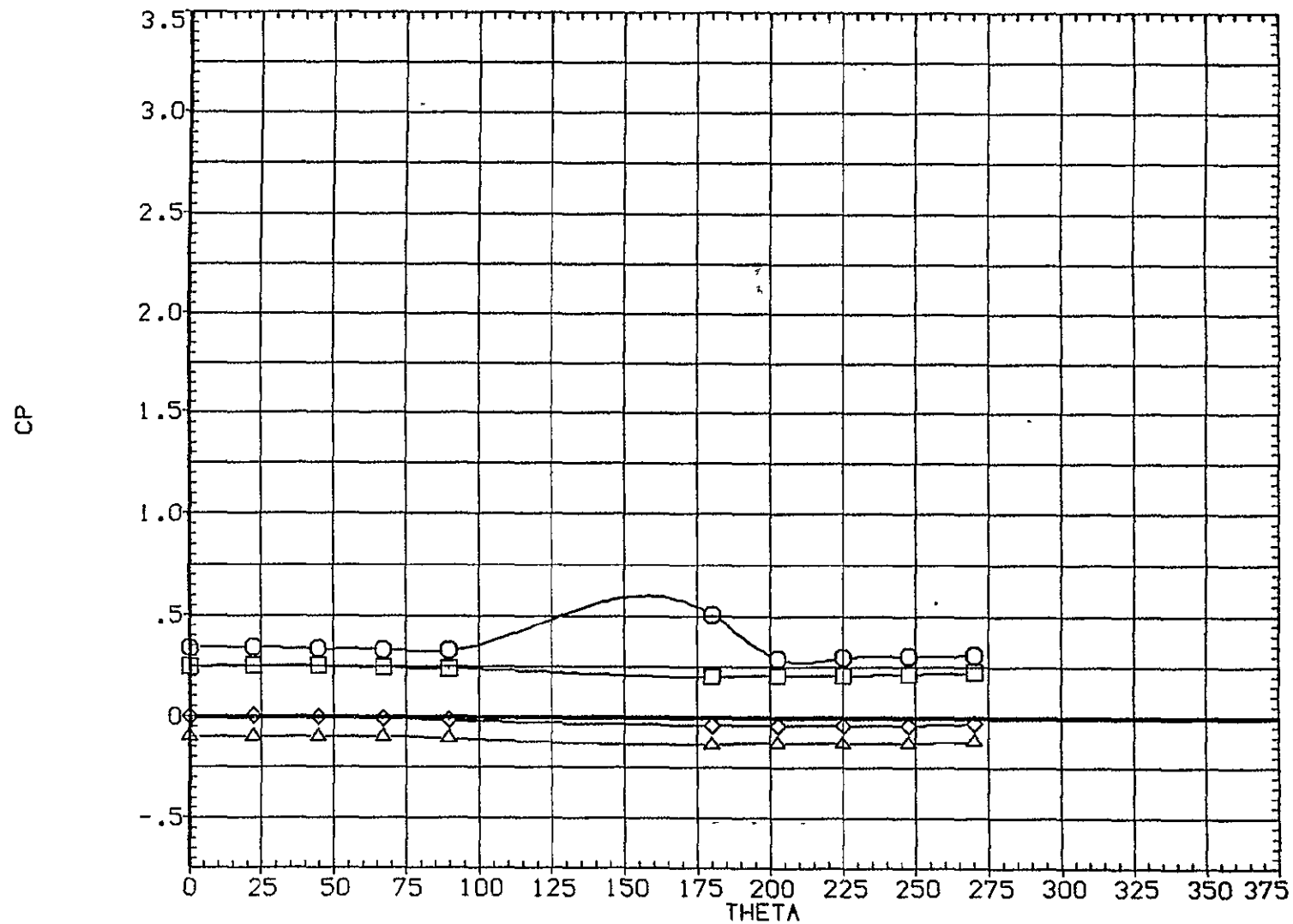
(B16005)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-1.040	1.203			
□	.068					
◇	.077					
△	.085					
▽	.093					
◁	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.000
○	.118	-1.040	1.203				
□	.131						
◇	.167						
△	.185						

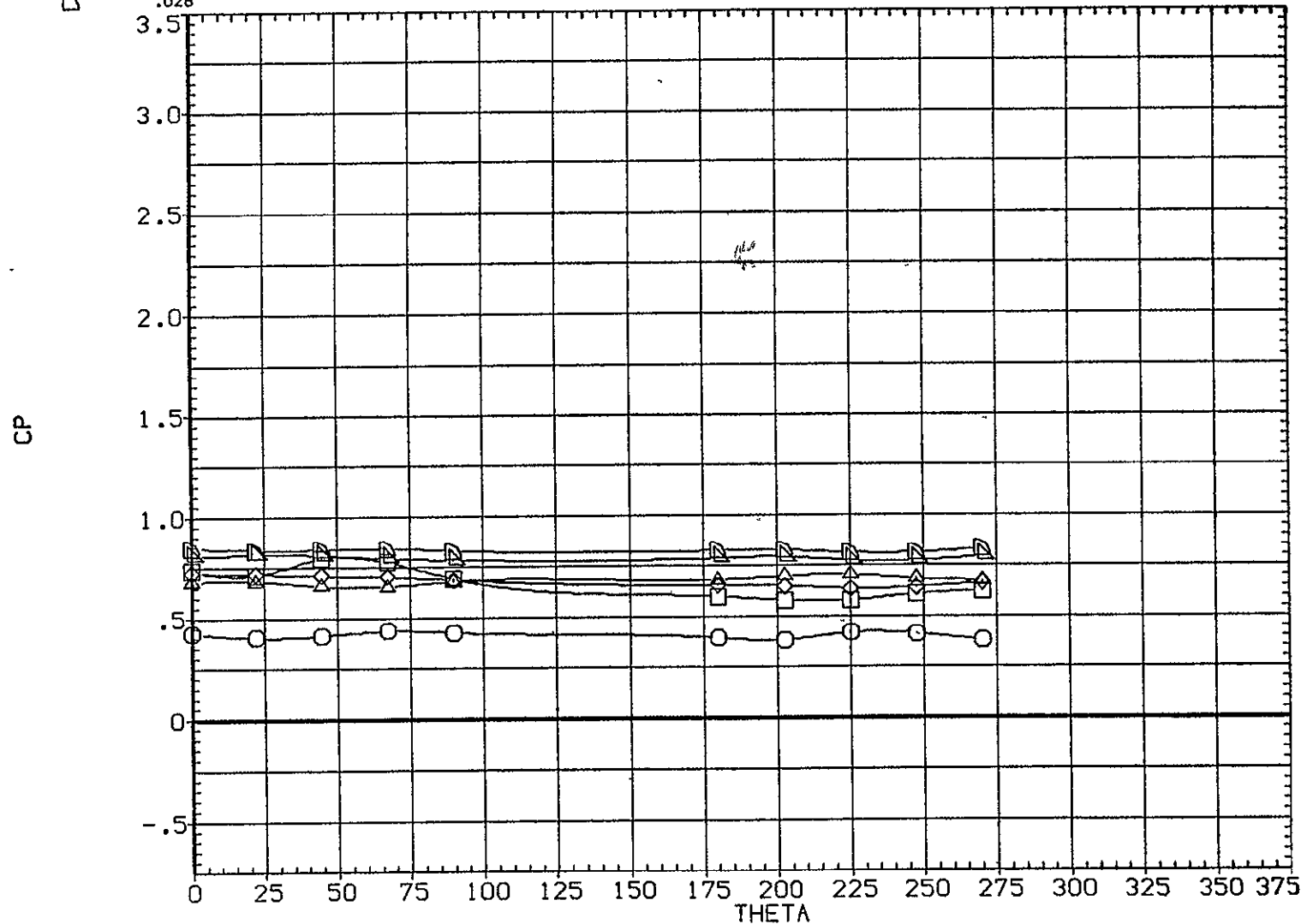


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

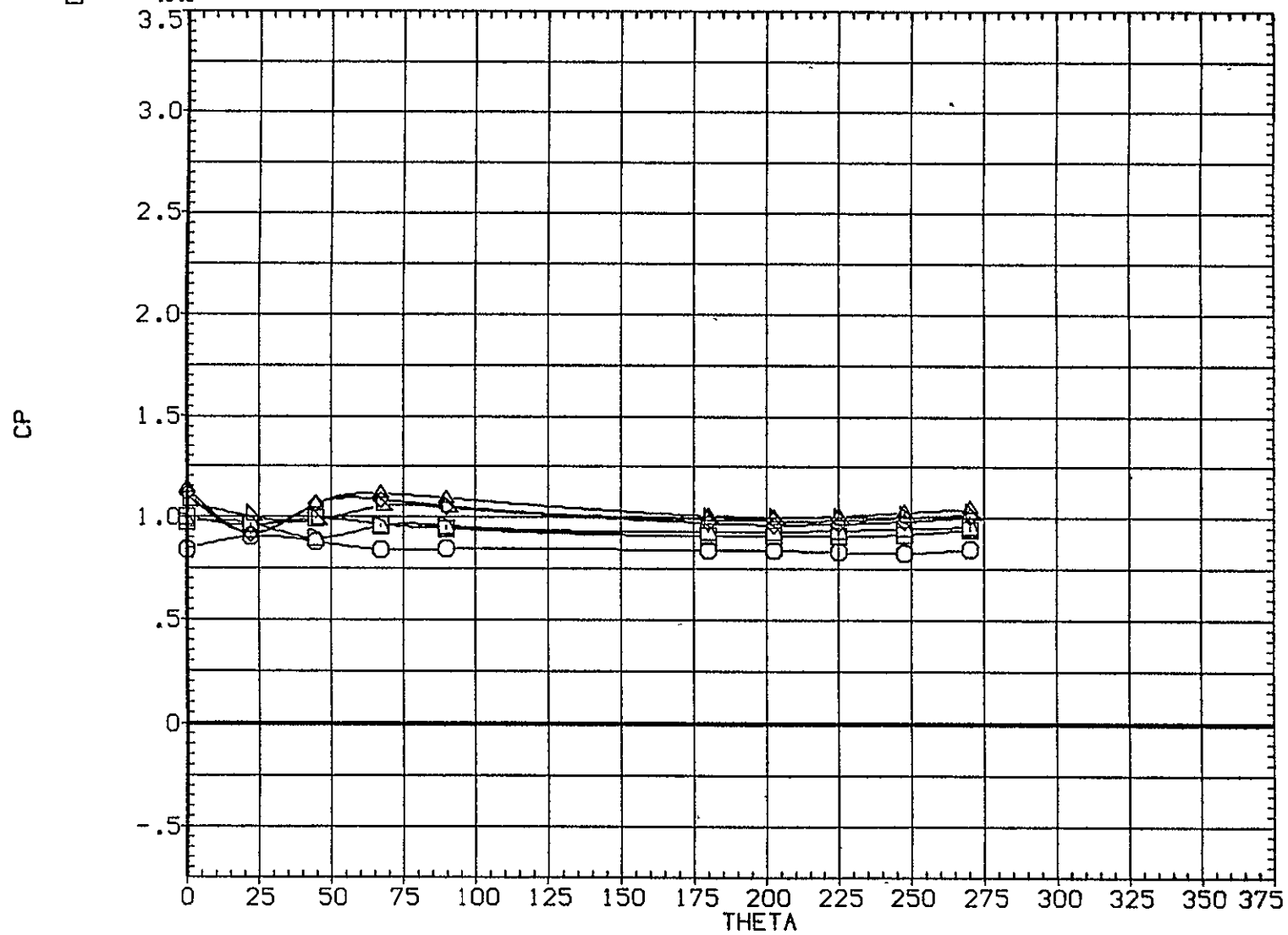
(B16005)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-1.060	1.464	.000		.000
□	.018					
◇	.020					
△	.022					
▽	.025					
▷	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	-1.060	1.464			.000
□	.036					
◇	.039					
△	.041					
▽	.044					
◻	.049					



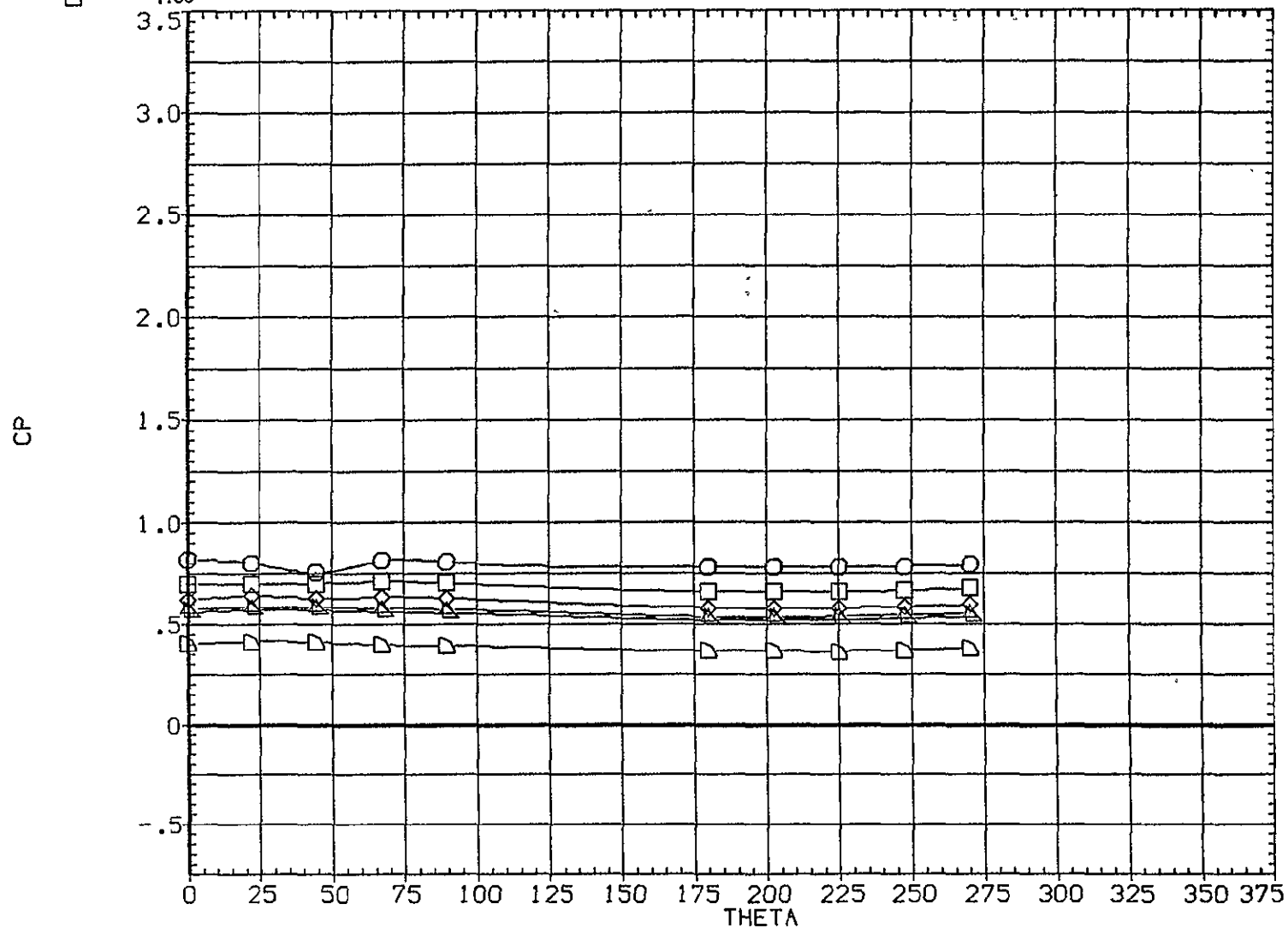
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

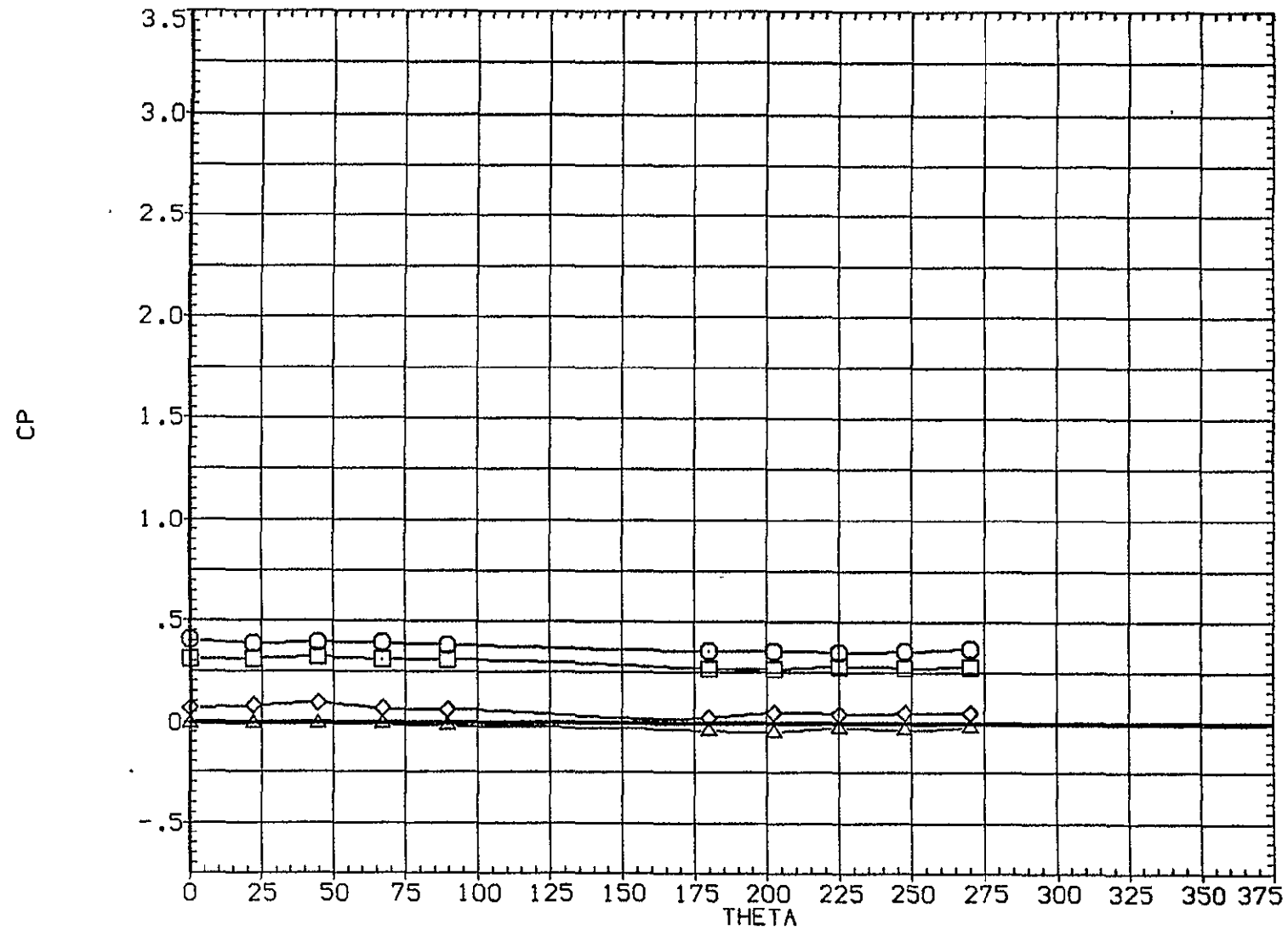
(B16005)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
○	.058	-1.060	1.464		.000	PHI	.000
□	.068						
◇	.077						
△	.085						
▽	.093						
▷	.106						



EFFECT OF RADIAL LOCATION ON PRESSURE

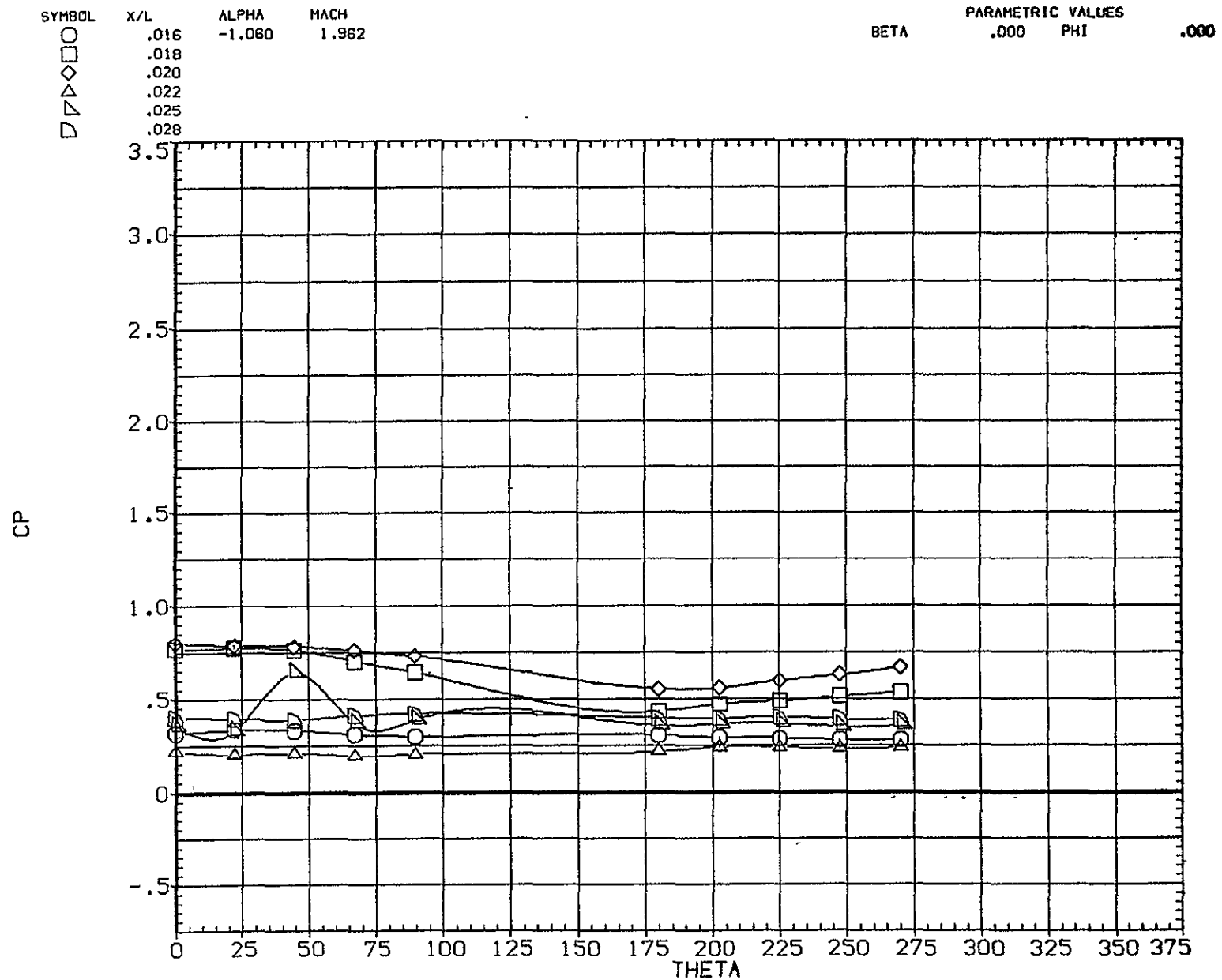
SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	-1.060	1.464				
□	.131				.000		
◇	.167						
△	.185						.000



EFFECT OF RADIAL LOCATION ON PRESSURE

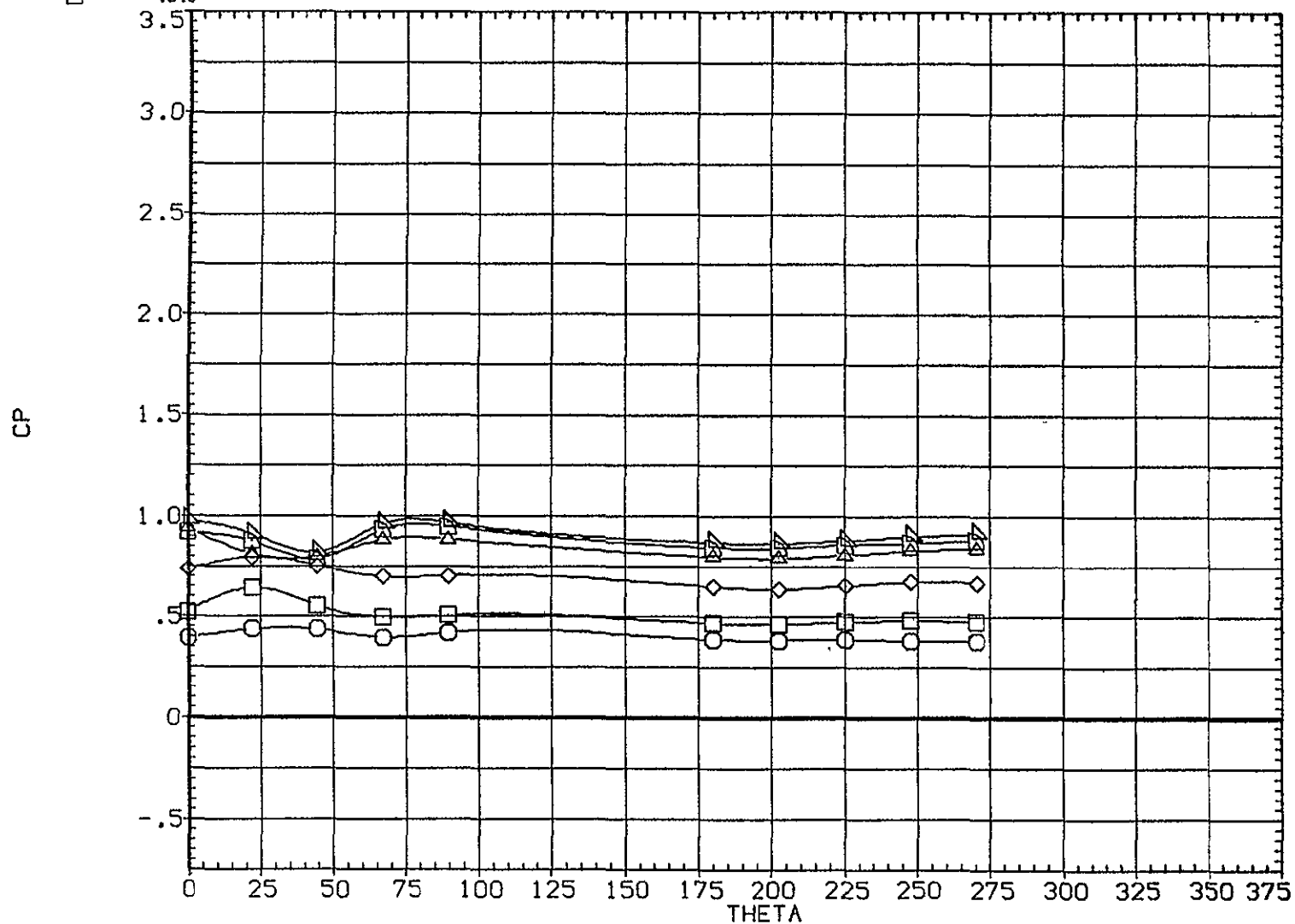
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16005)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	-1.060	1.962	.000		.000
□	.036					
◇	.039					
△	.041					
▽	.044					
◁	.049					

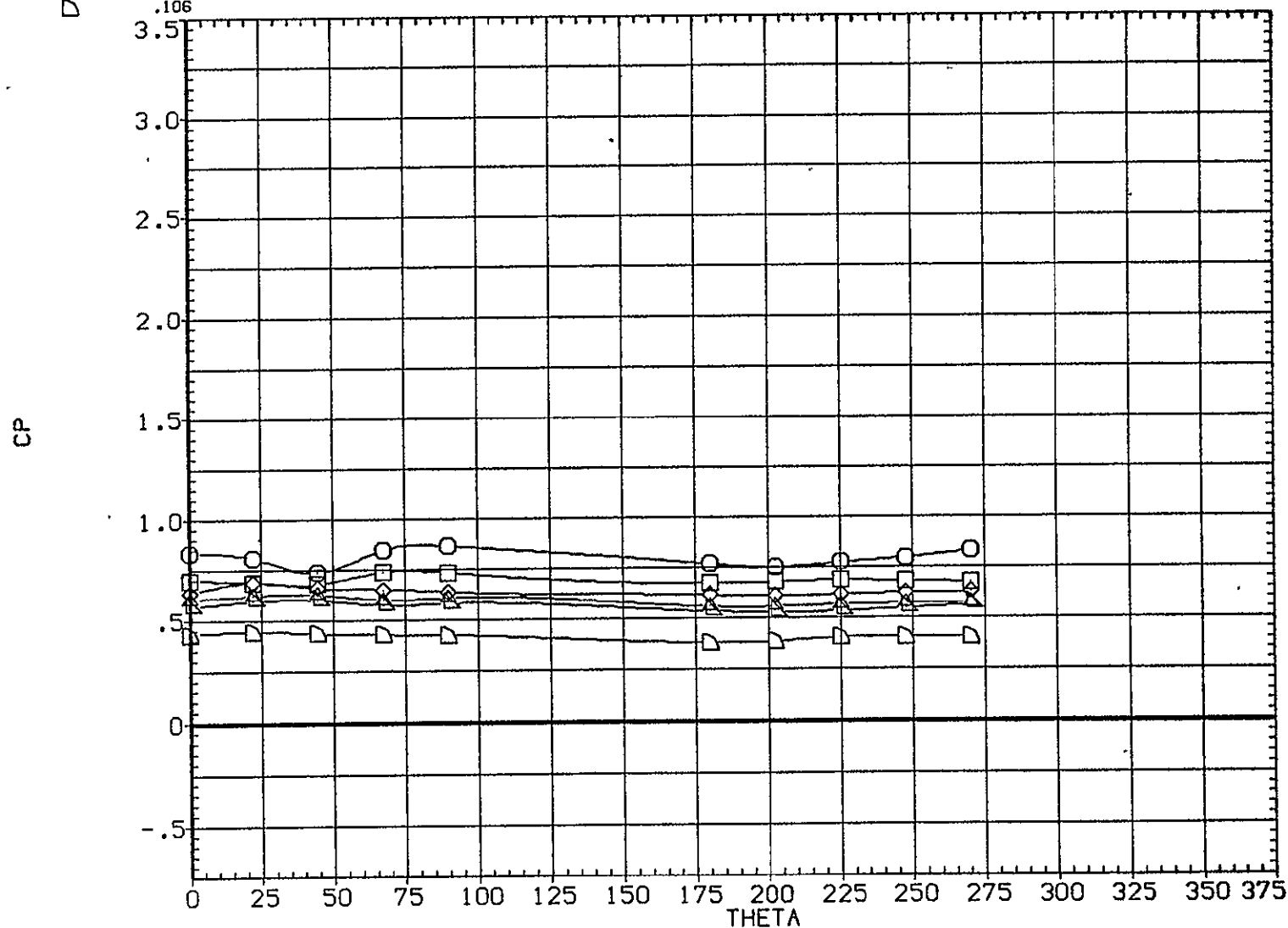


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G005)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	.000
○	.058	-1.060	1.962			
□	.068					
◇	.077					
△	.085					
▽	.093					
◁	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL

○  
□  
◇  
△

X/L

ALPHA

MACH

.118  
.131  
.167  
.185

-1.050

1.952

PARAMETRIC VALUES

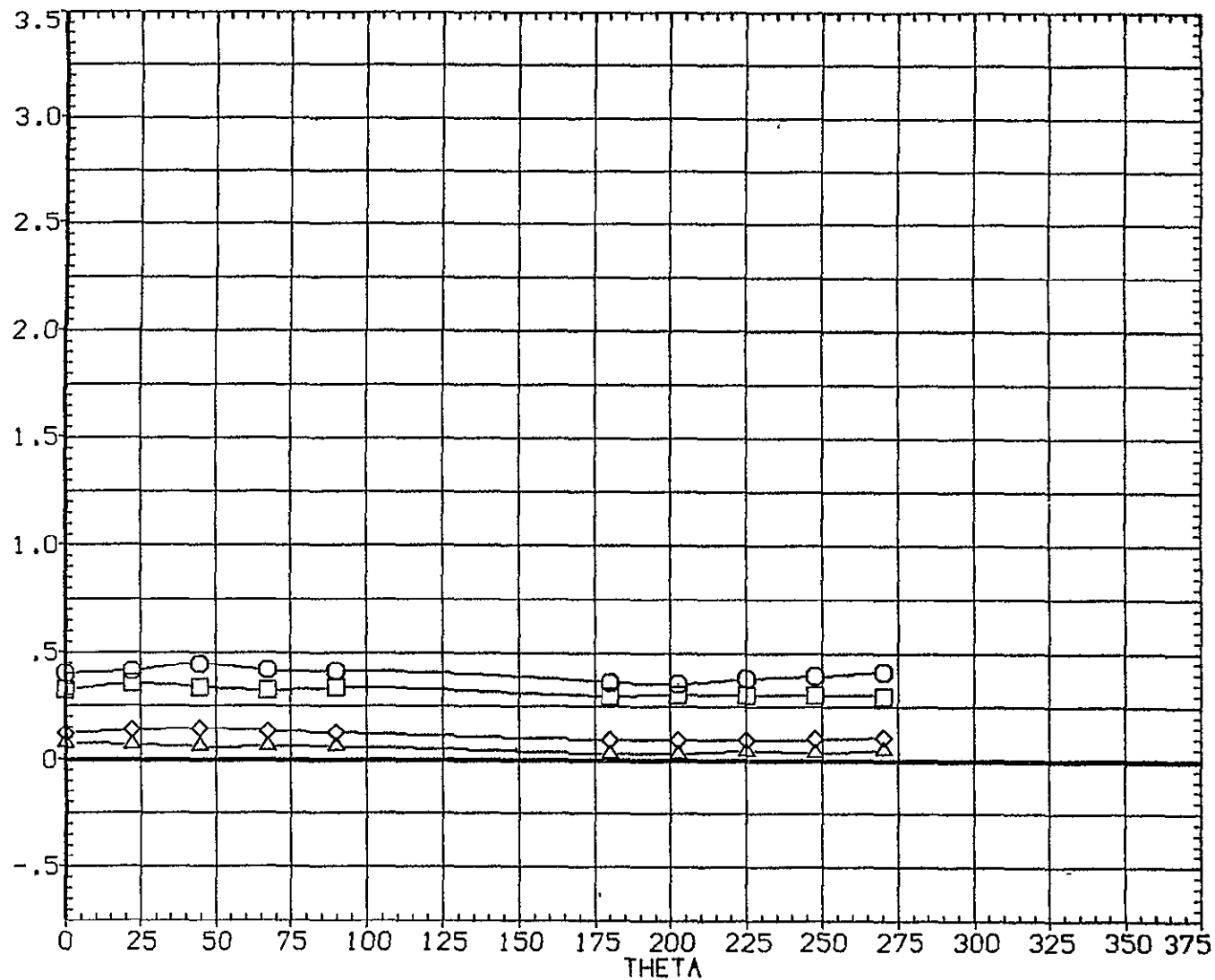
BETA

.000

PHI

.000

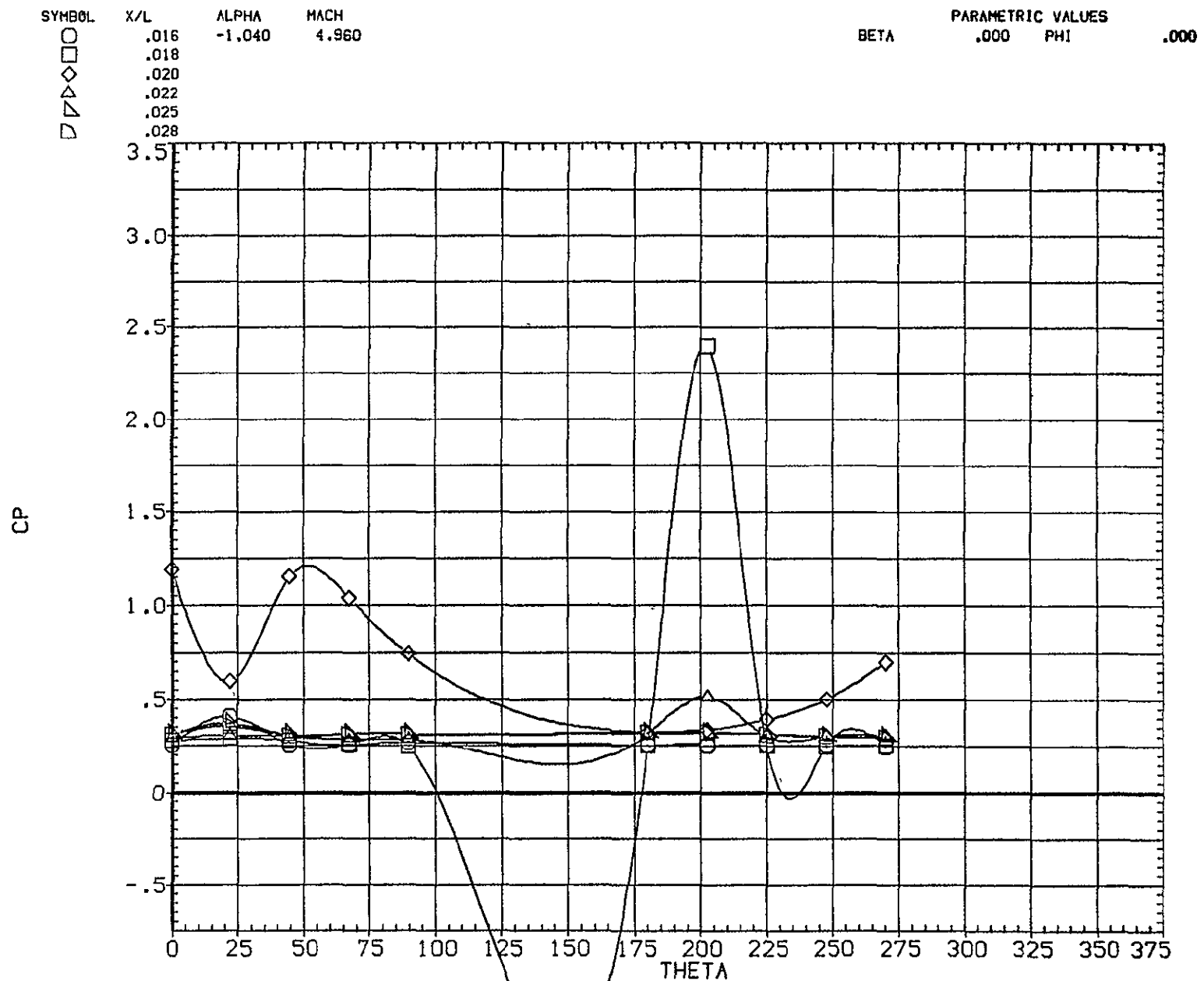
CP



EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16005)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL

X/L

ALPHA

MACH

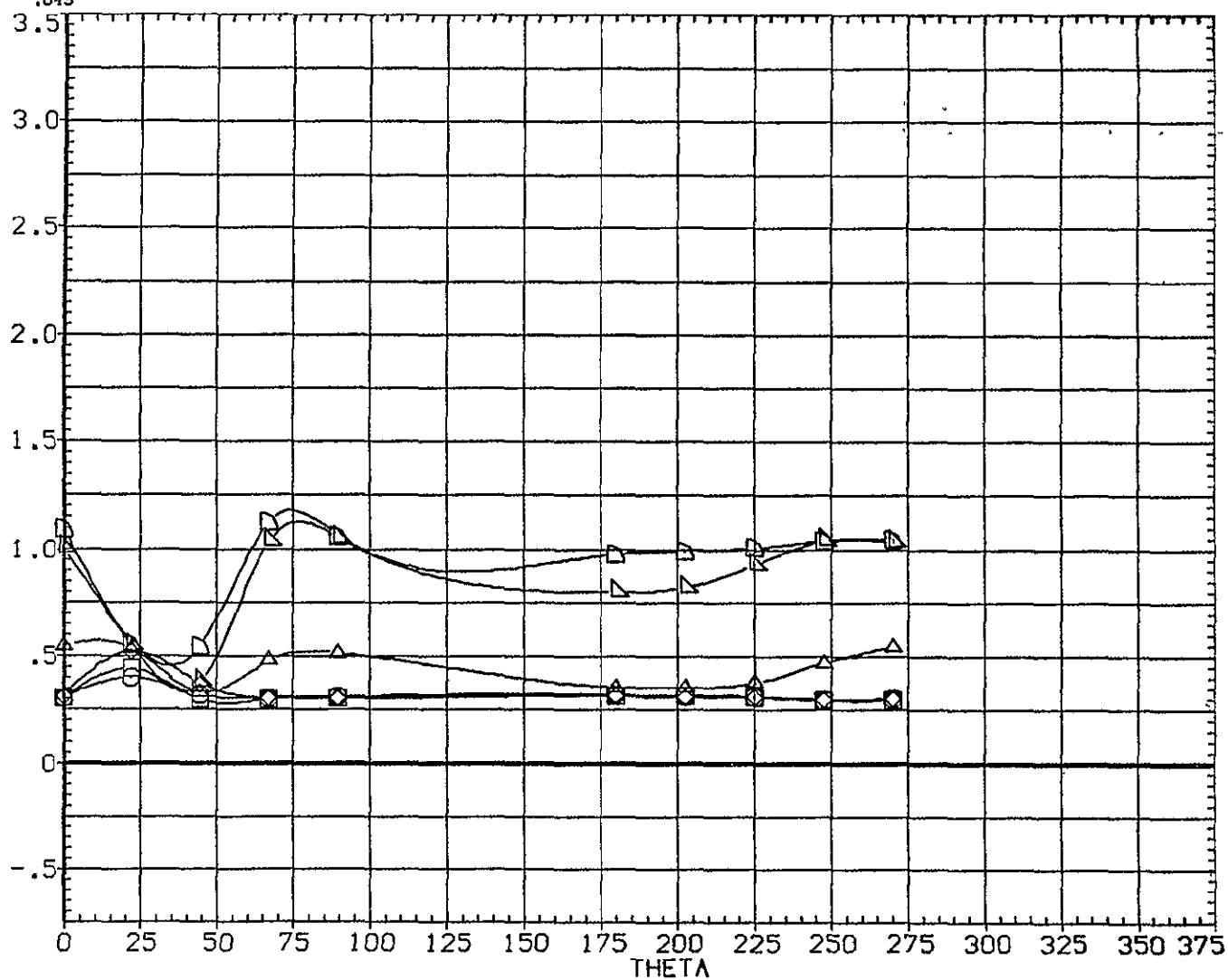
BETA

PARAMETRIC VALUES

PHI

.000

CP



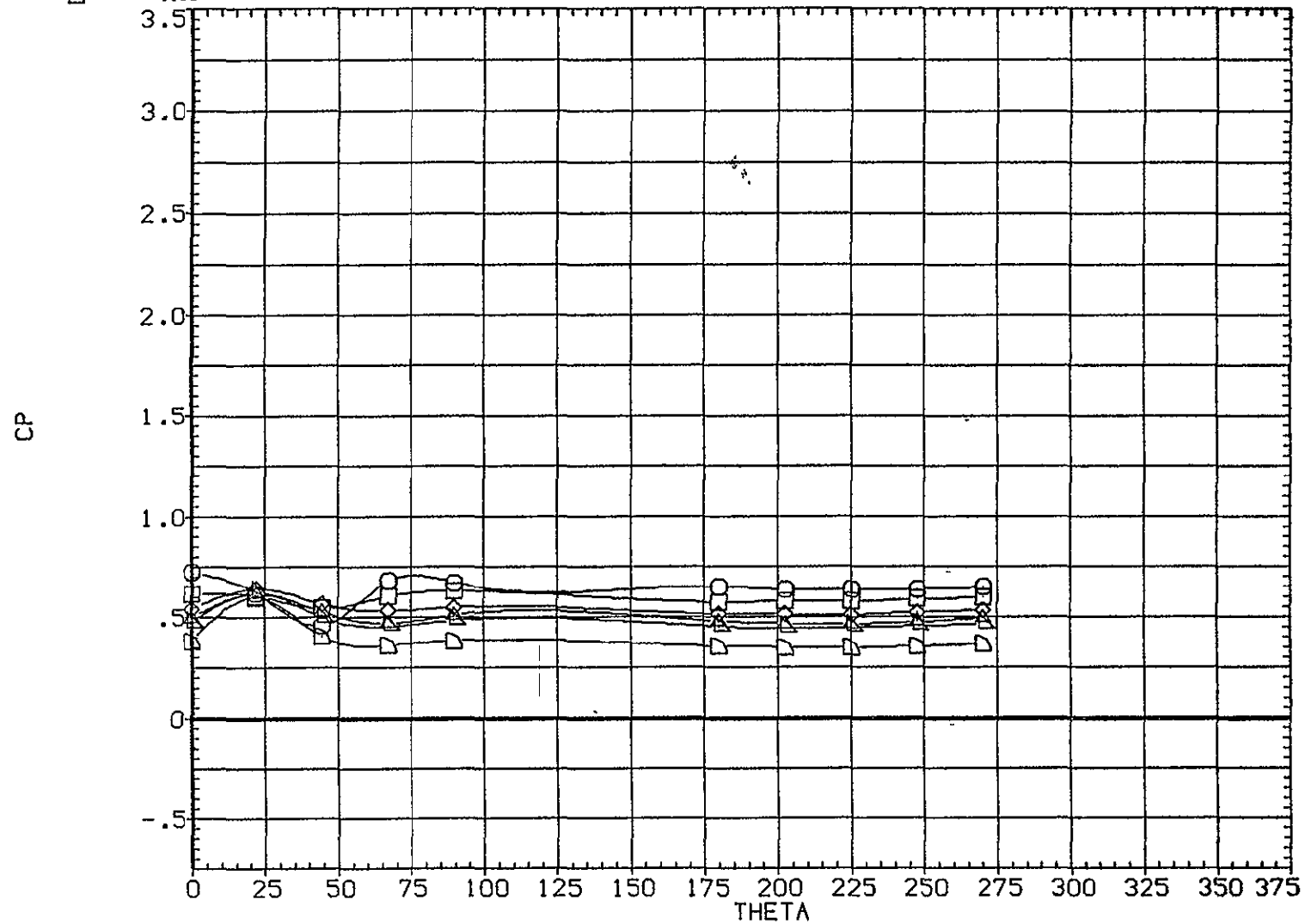
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

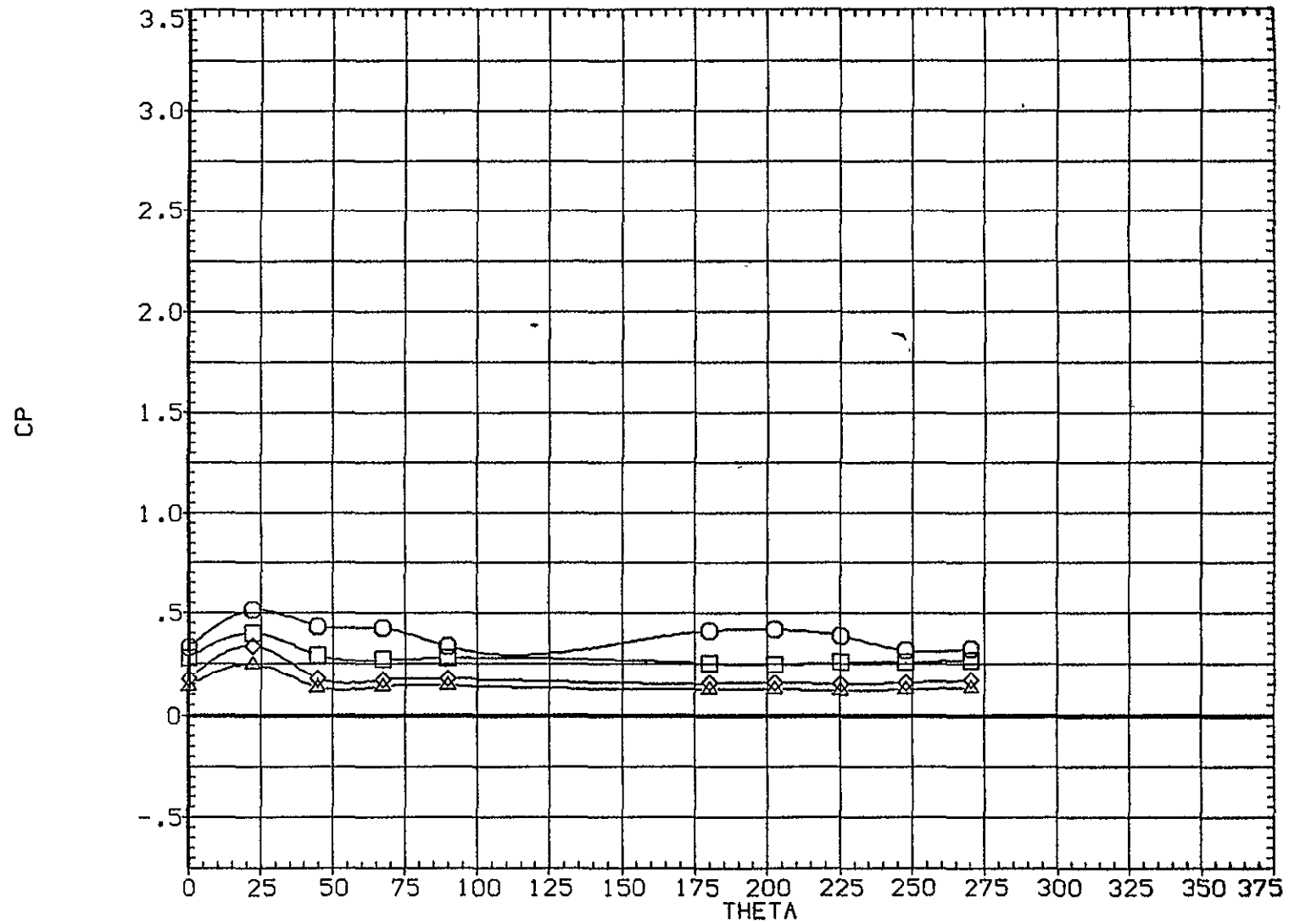
(B16005)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-1.040	4.960			
□	.068					
◇	.077					
△	.085					
▽	.093					
▷	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
○	.118	-1.040	4.960		.000	PHI	.000
□	.131						
◇	.167						
△	.185						

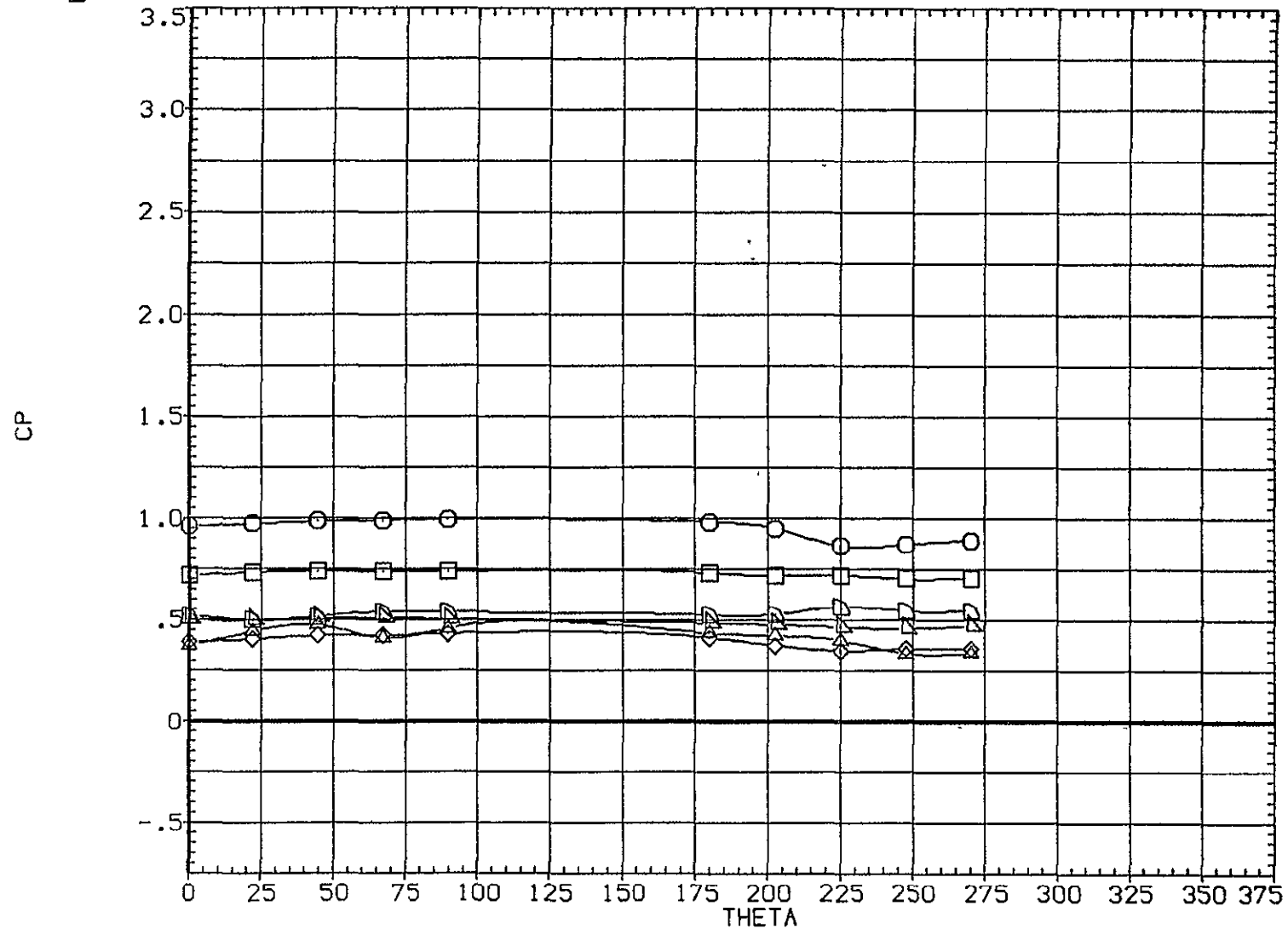


EFFECT OF RADIAL LOCATION ON PRESSURE

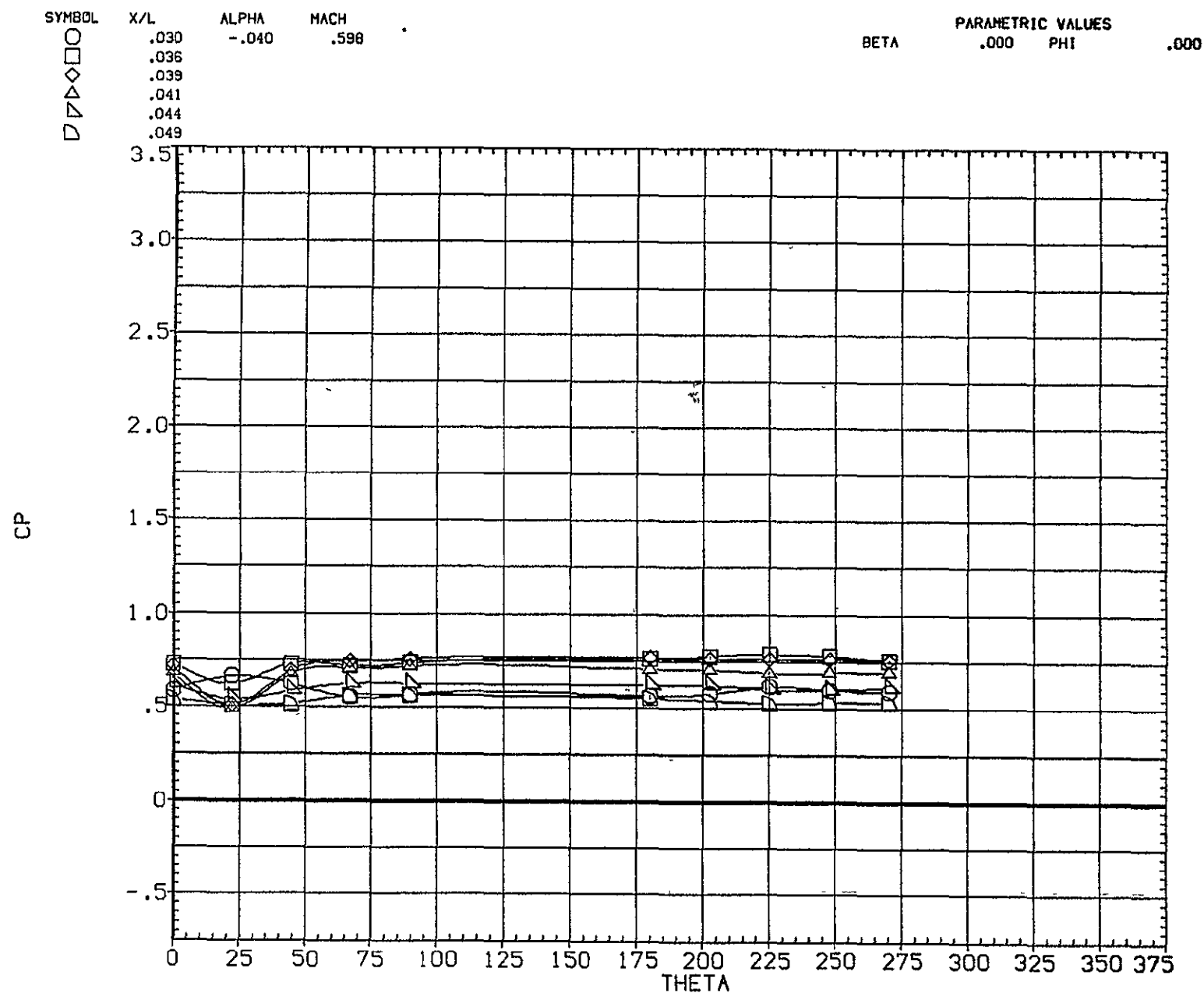
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G006)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	-.040	.598			
□	.018					
◇	.020					
△	.022					
▽	.025					
▷	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

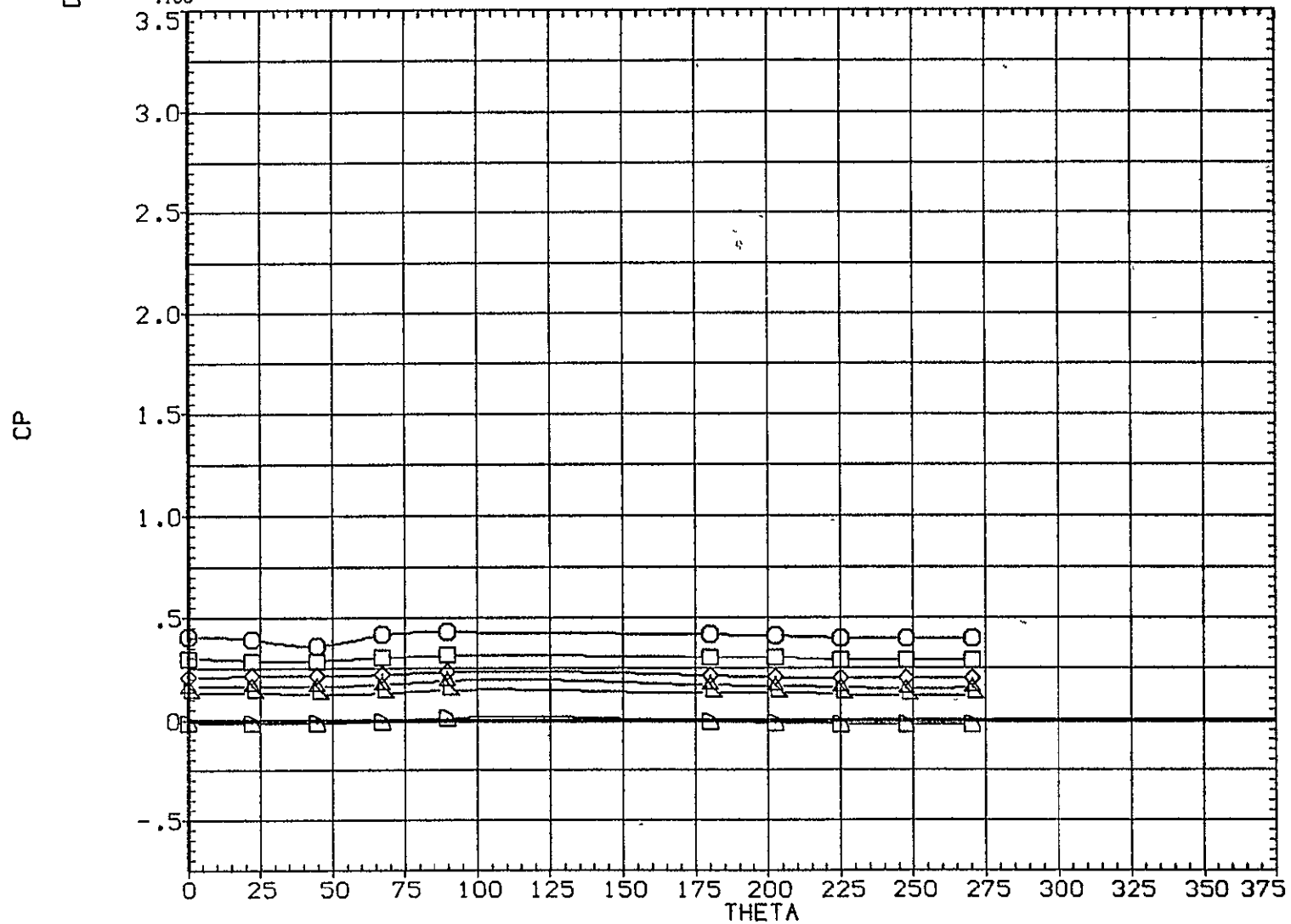


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

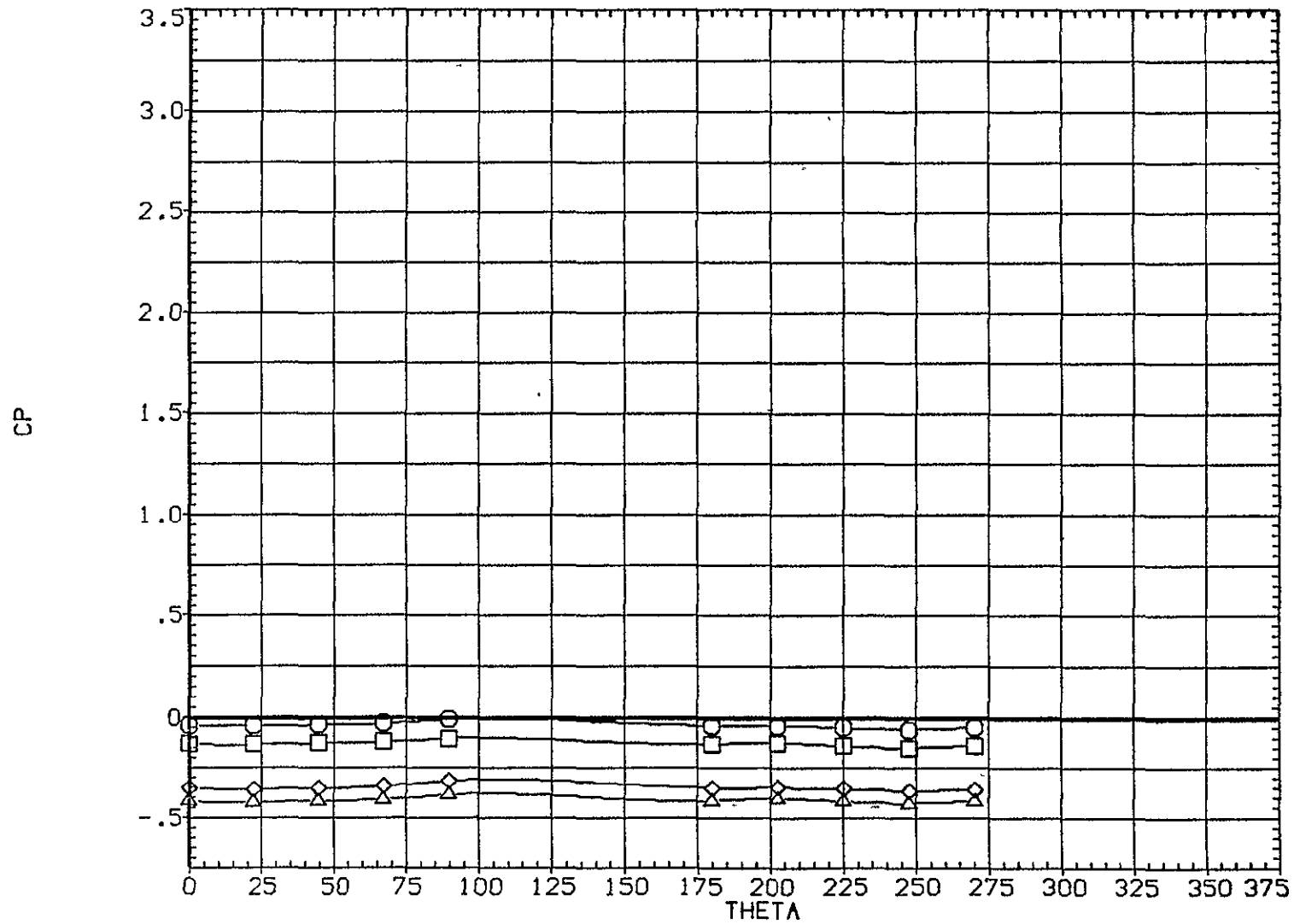
(B1G006)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-.040	.598			
□	.068					
◇	.077					
△	.085					
▽	.093					
◁	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	-.040	.598			
□	.131					
◇	.167					
△	.185					

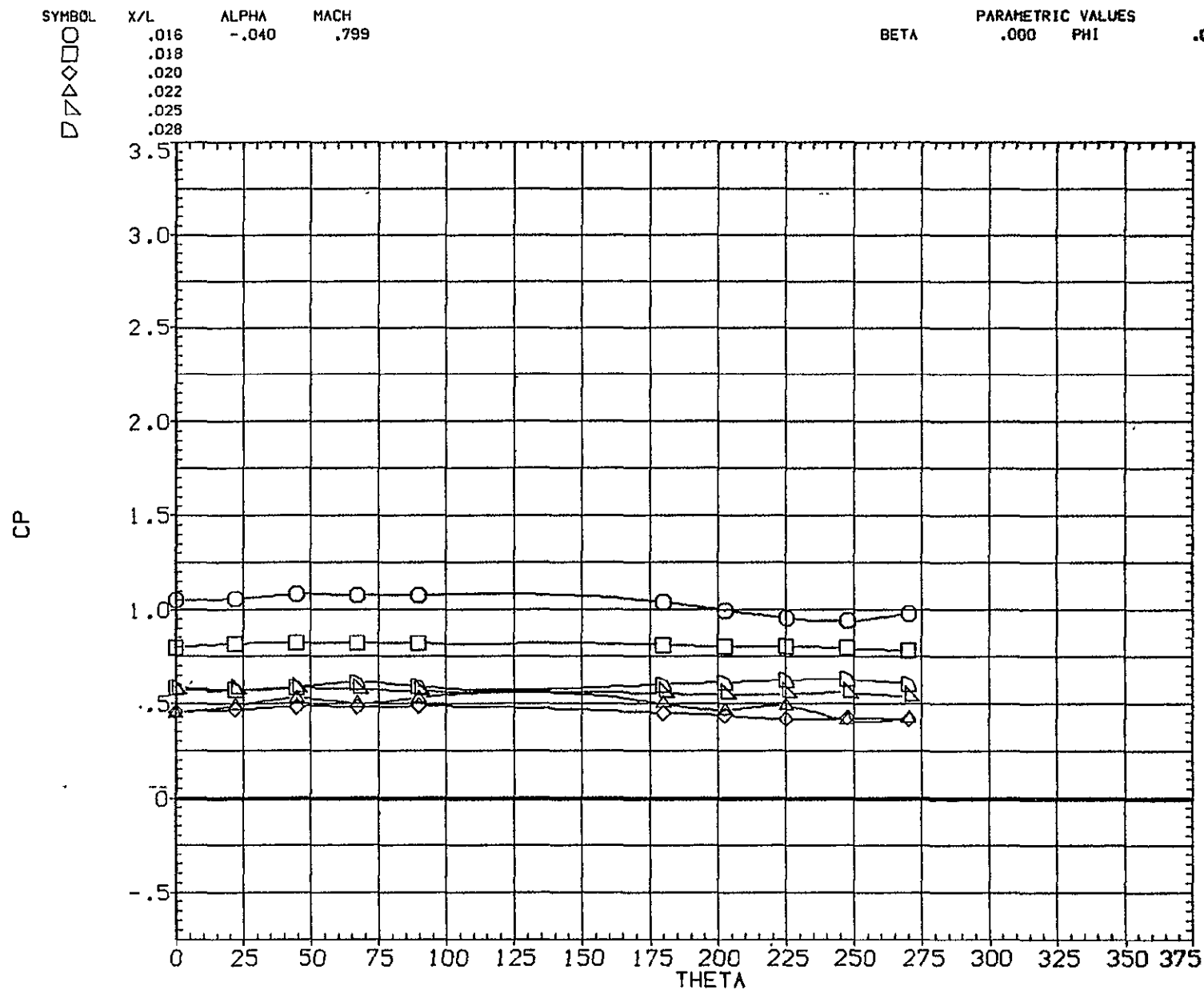


EFFECT OF RADIAL LOCATION ON PRESSURE

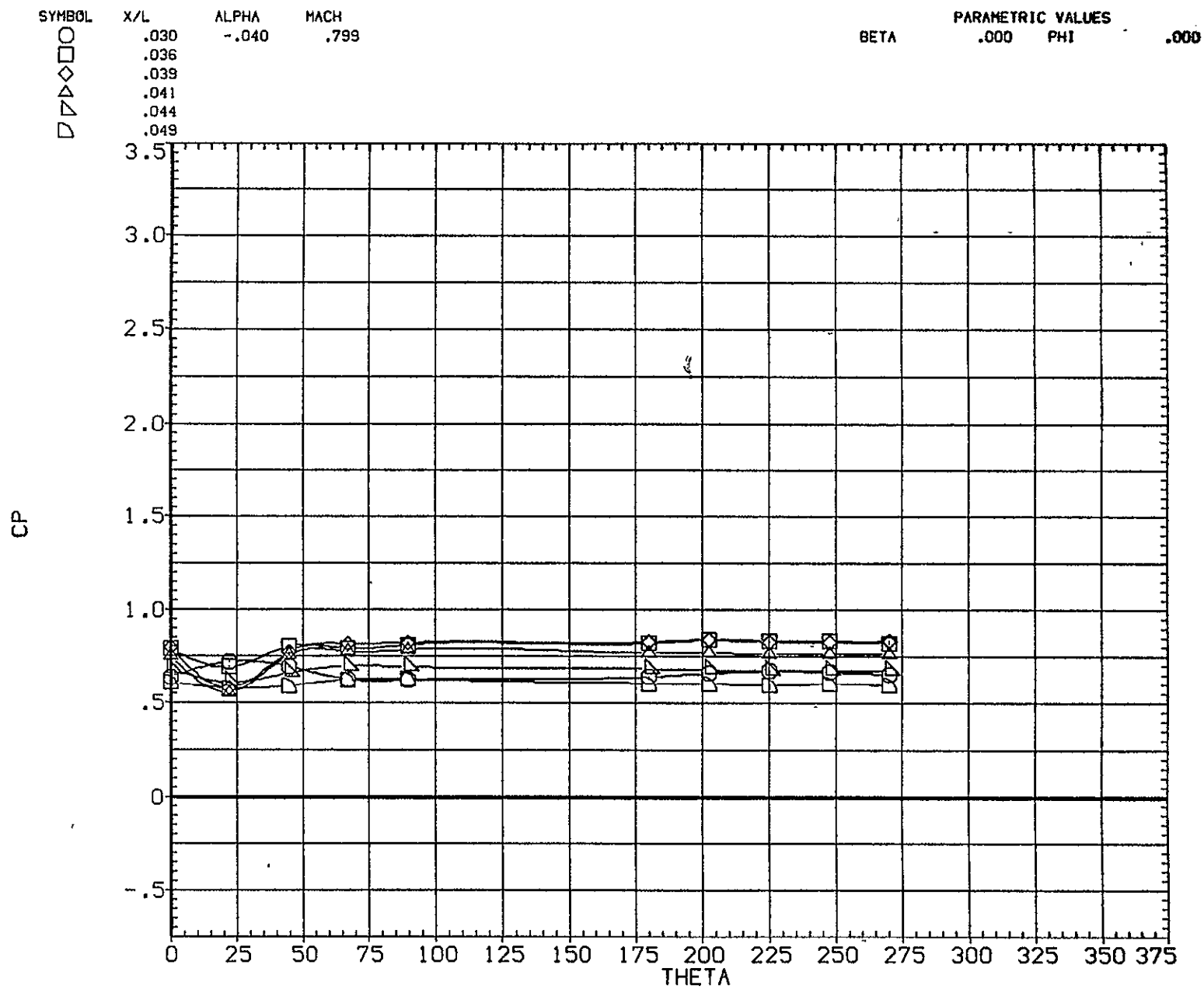
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16006)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
		-.040	.799		.000	PHI	.000



EFFECT OF RADIAL LOCATION ON PRESSURE

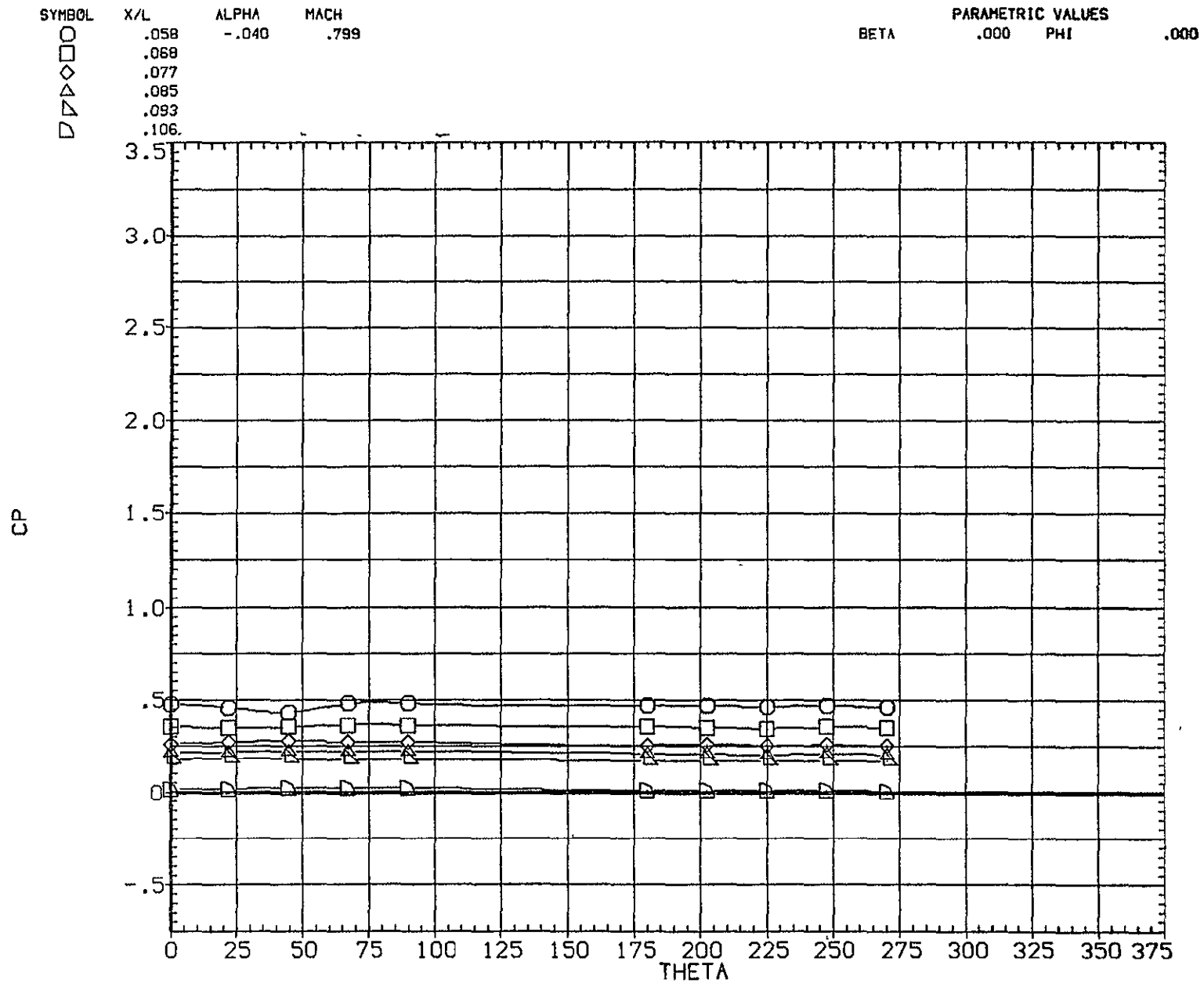


EFFECT OF RADIAL LOCATION ON PRESSURE



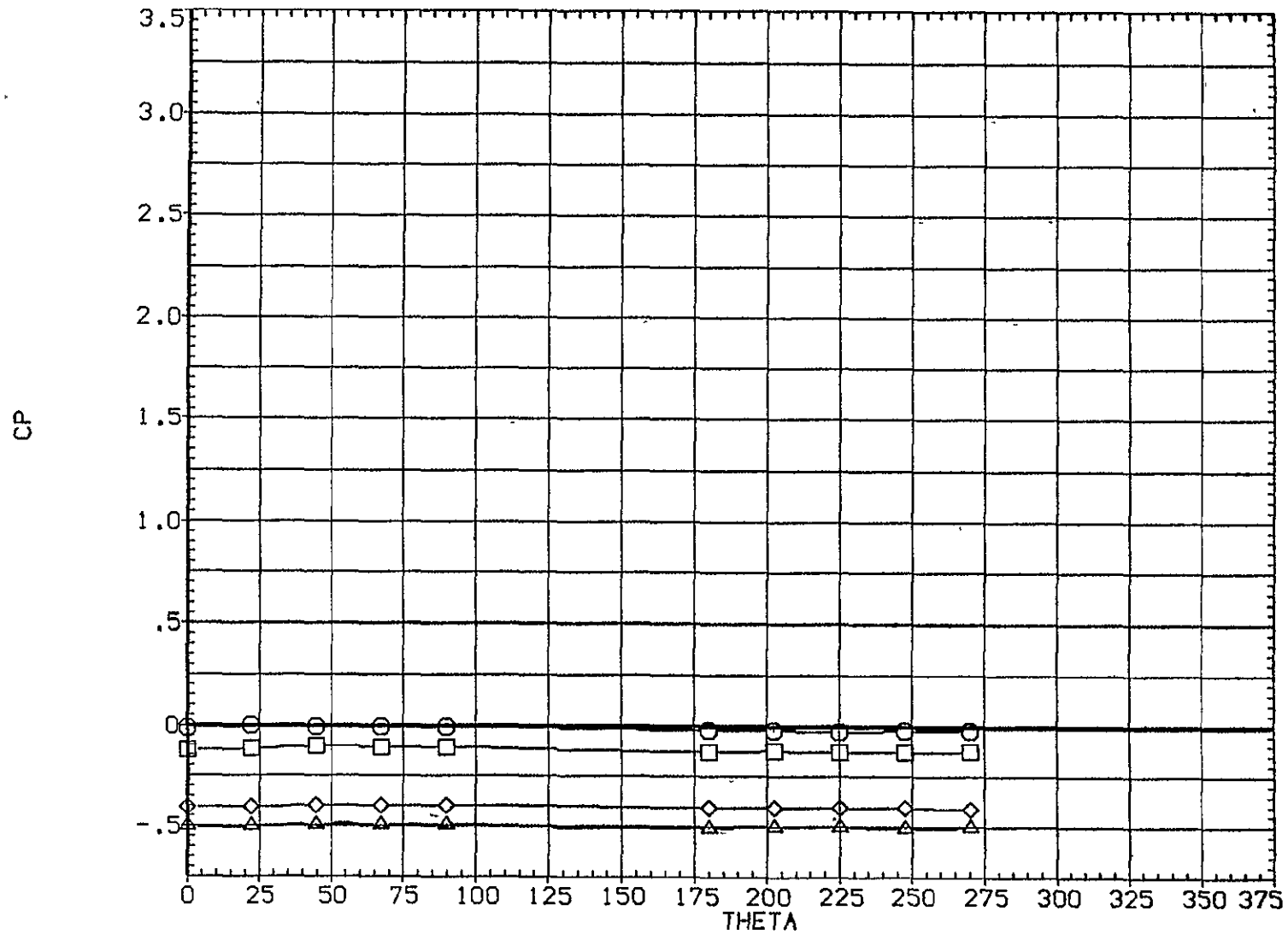
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16006)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA		MACH		PARAMETRIC VALUES		
						BETA	PHI	
○	.118	-.040		.799				
□	.131							
◇	.167							
△	.185							

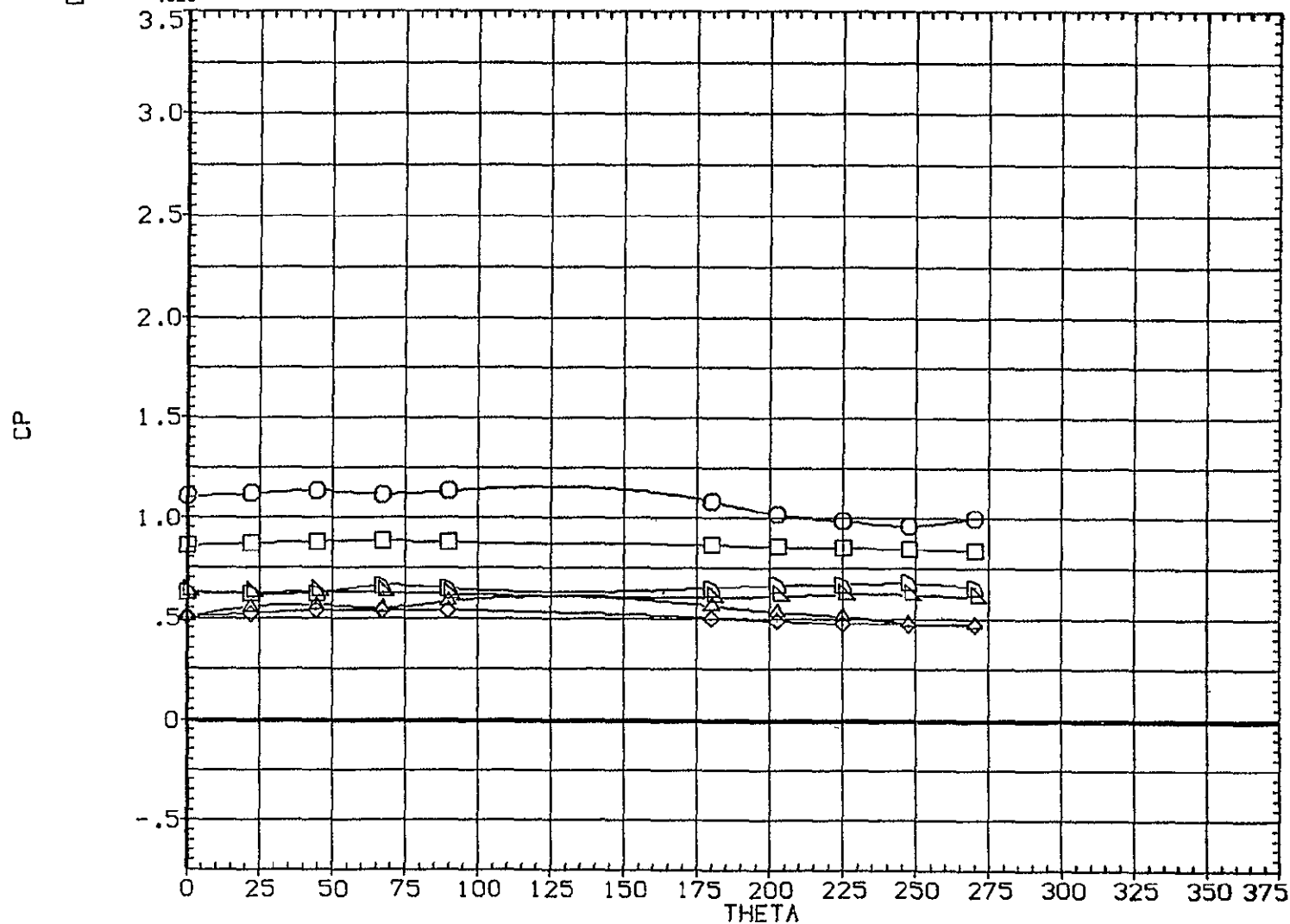


EFFECT OF RADIAL LOCATION ON PRESSURE

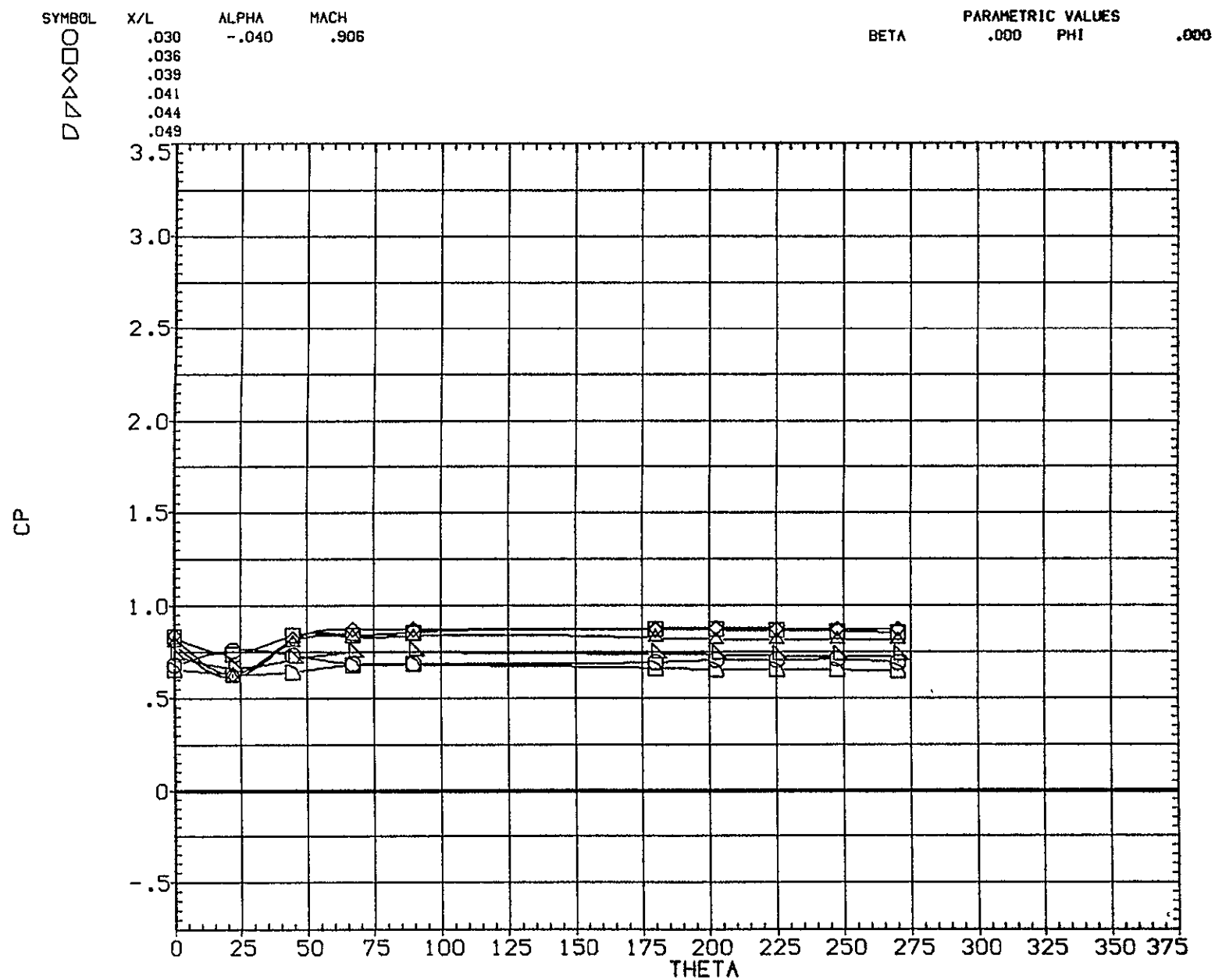
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16006)

SYMBOL X/L ALPHA MACH BETA PARAMETRIC VALUES  
 .016 -.040 .906 .000 PHI .000  
 .018  
 .020  
 .022  
 .025  
 .028



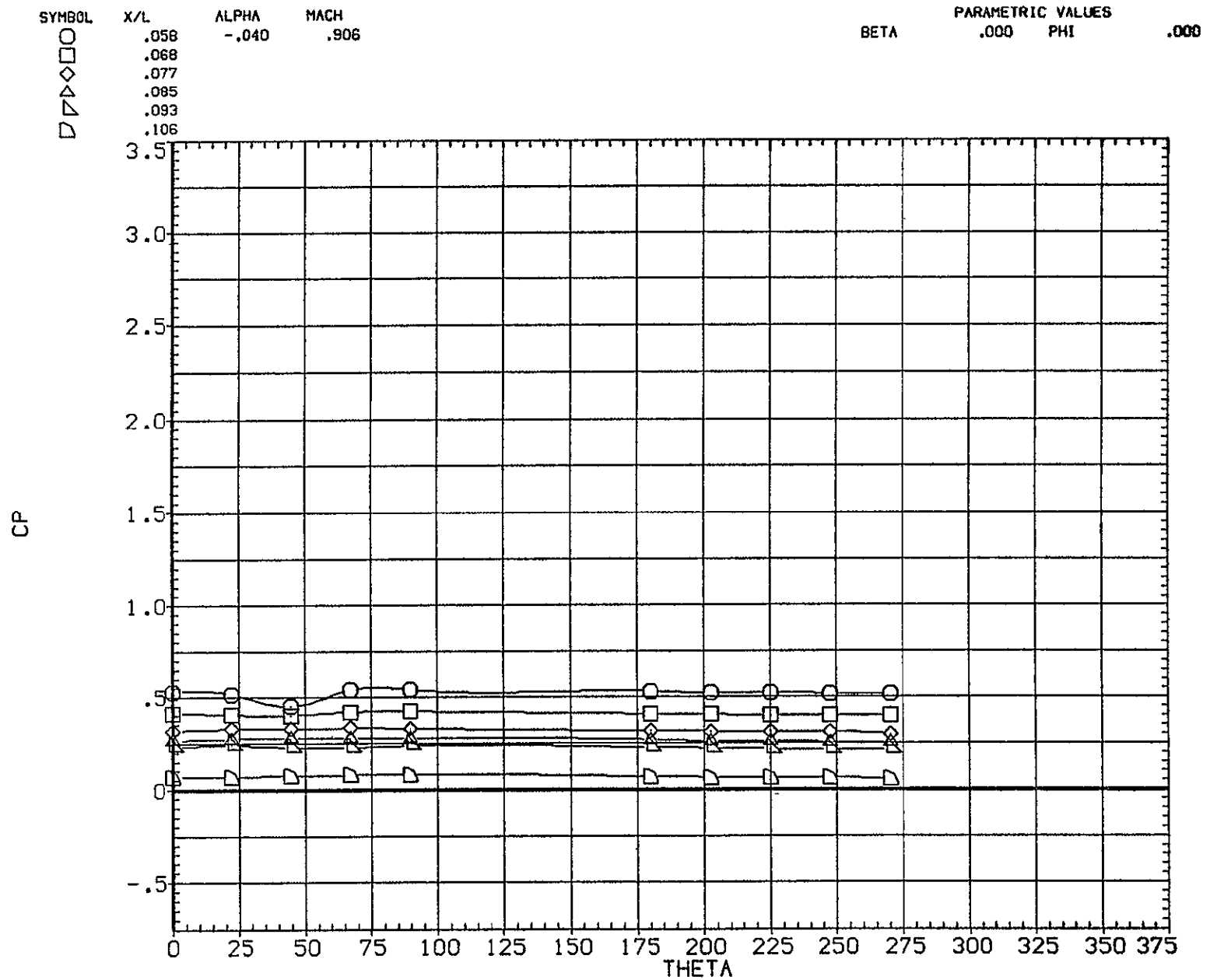
EFFECT OF RADIAL LOCATION ON PRESSURE



EFFECT OF RADIAL LOCATION ON PRESSURE

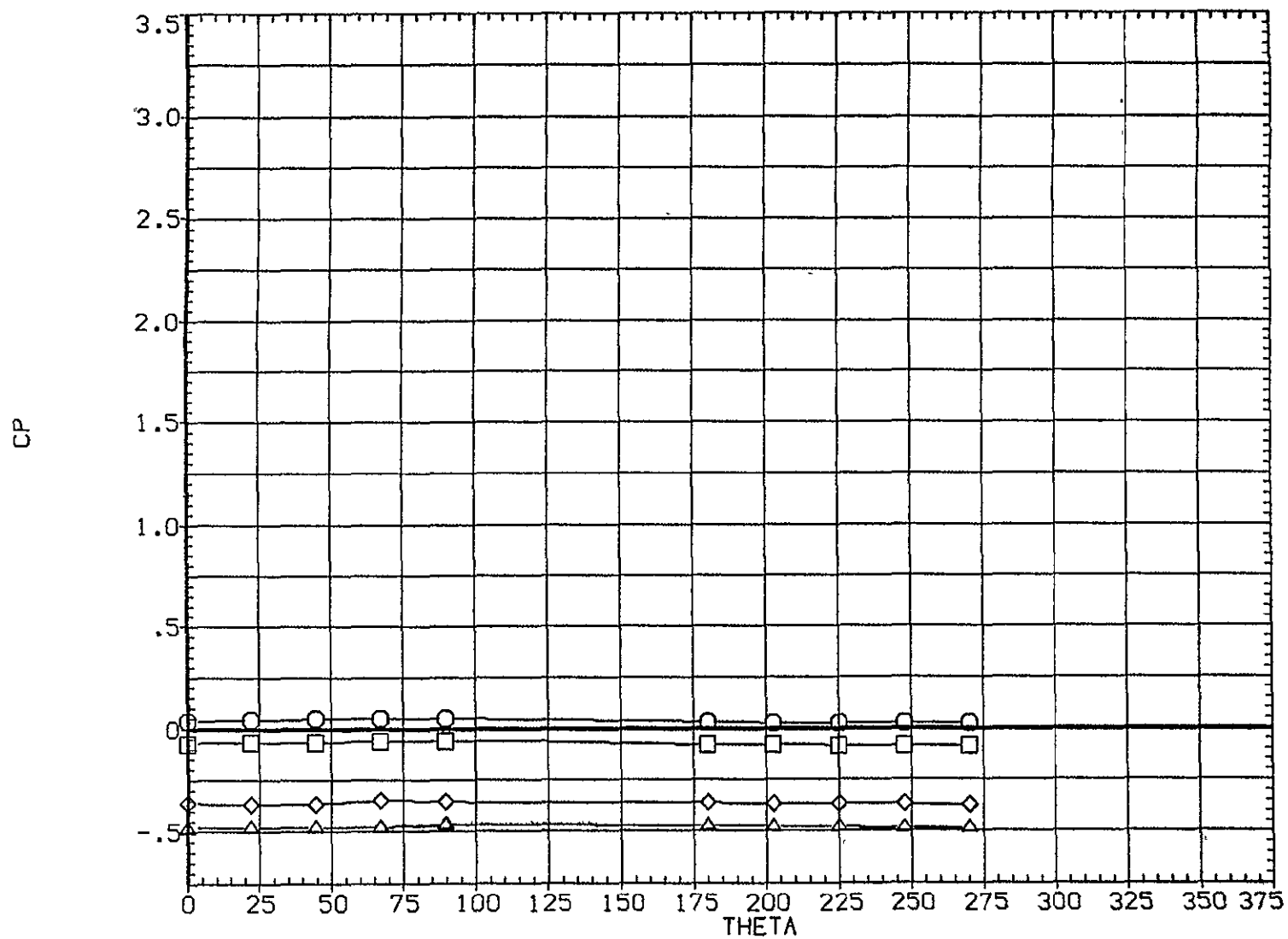
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G006)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	.000
○	.118	-.040	.906			
□	.131					
◇	.167					
△	.185					

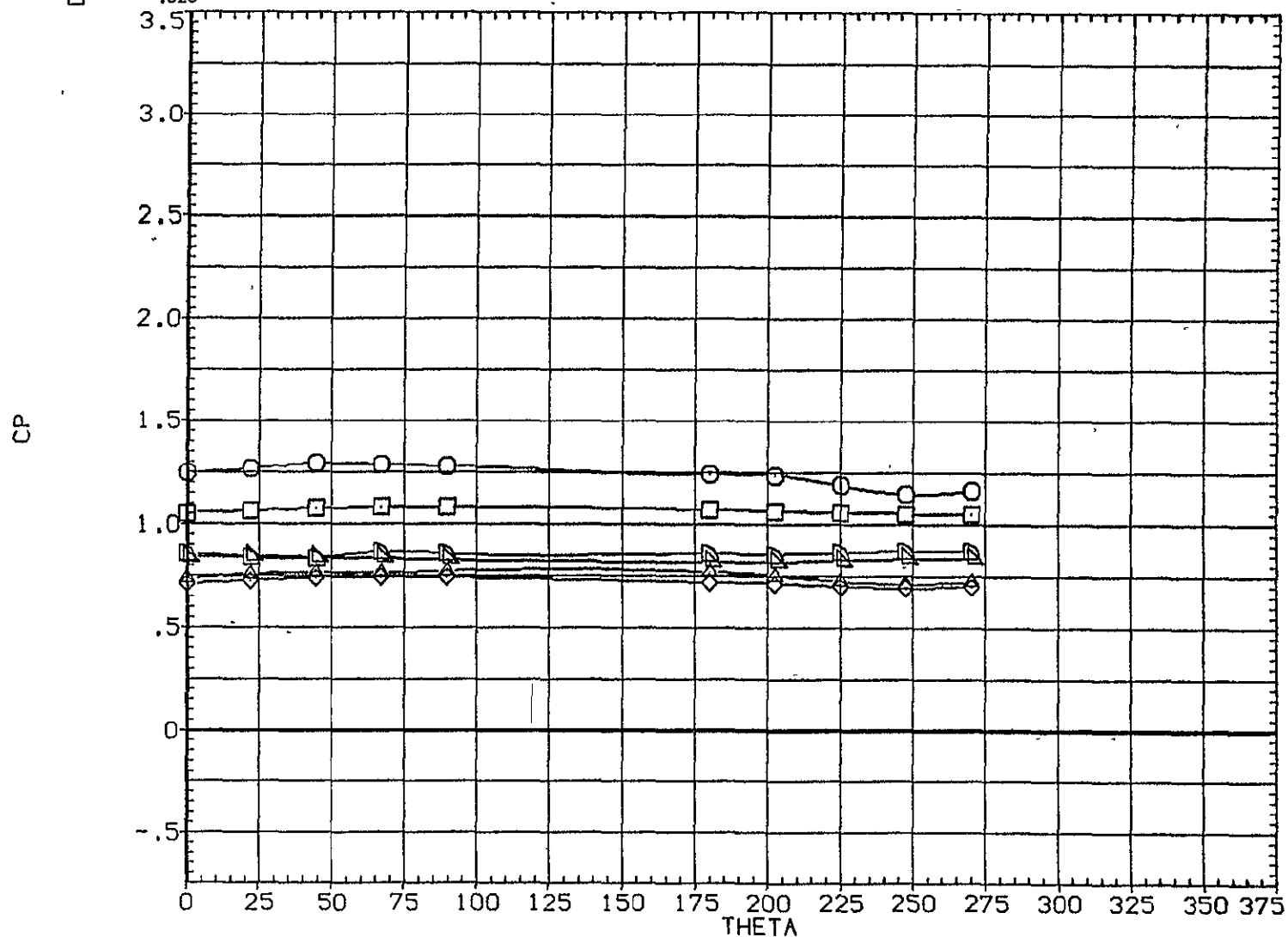


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G006)

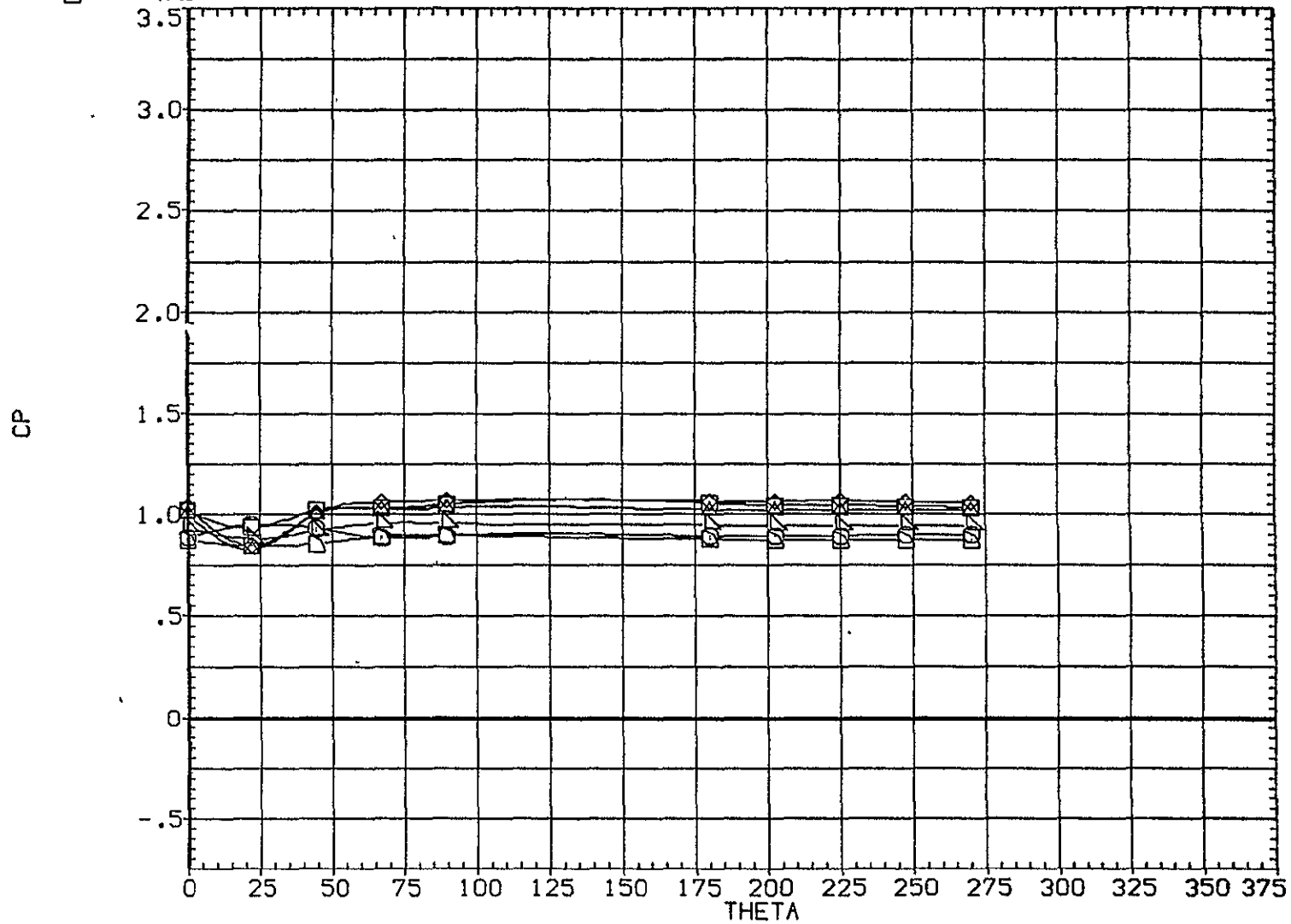
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
	.016	-.040	1.203	BETA	.000	PHI
	.018					.000
	.020					
	.022					
	.025					
.028						



EFFECT OF RADIAL LOCATION ON PRESSURE

C-3

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	-.040	1.203	.000		.000
□	.036					
◇	.039					
△	.041					
▽	.044					
▷	.049					

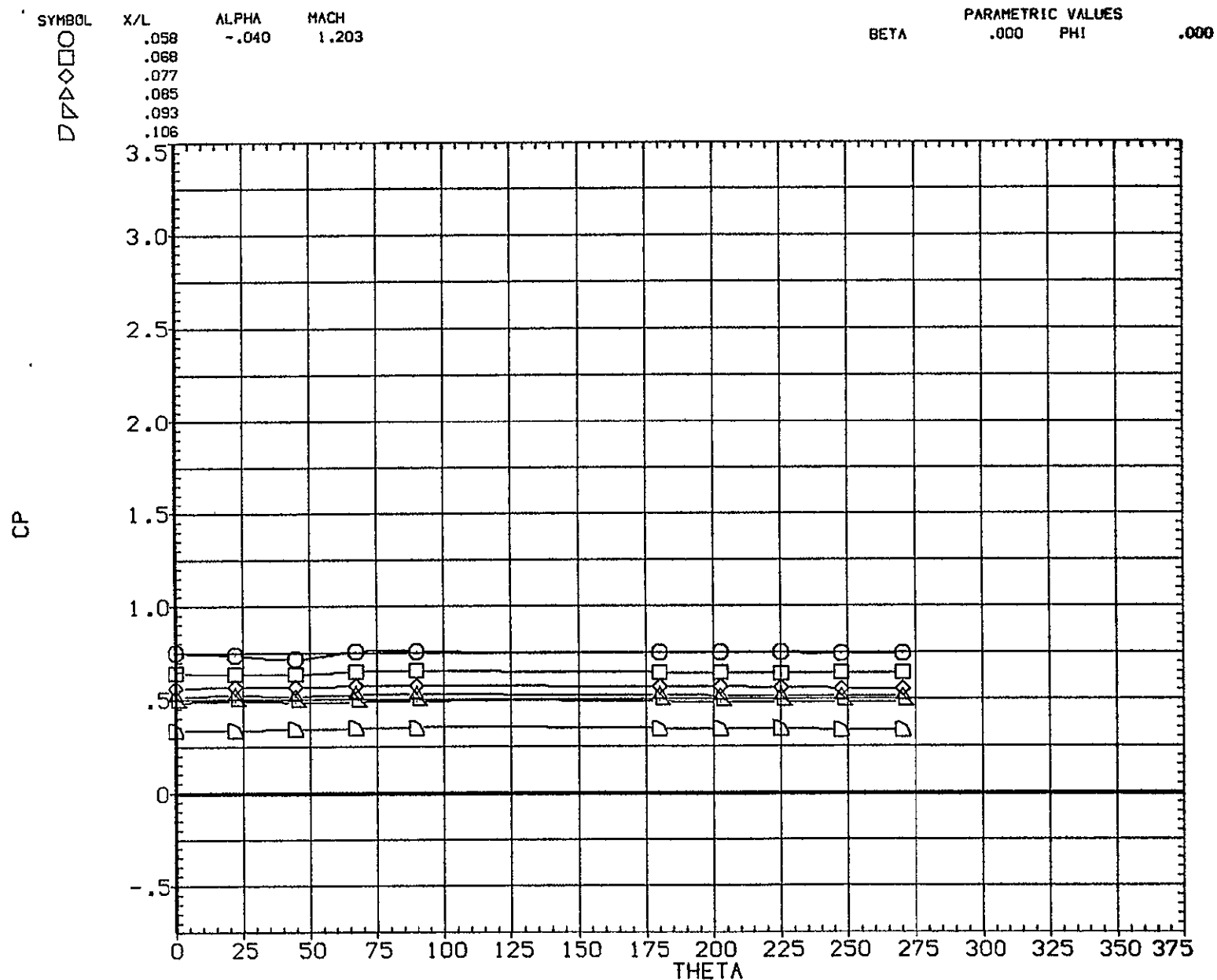


EFFECT OF RADIAL LOCATION ON PRESSURE



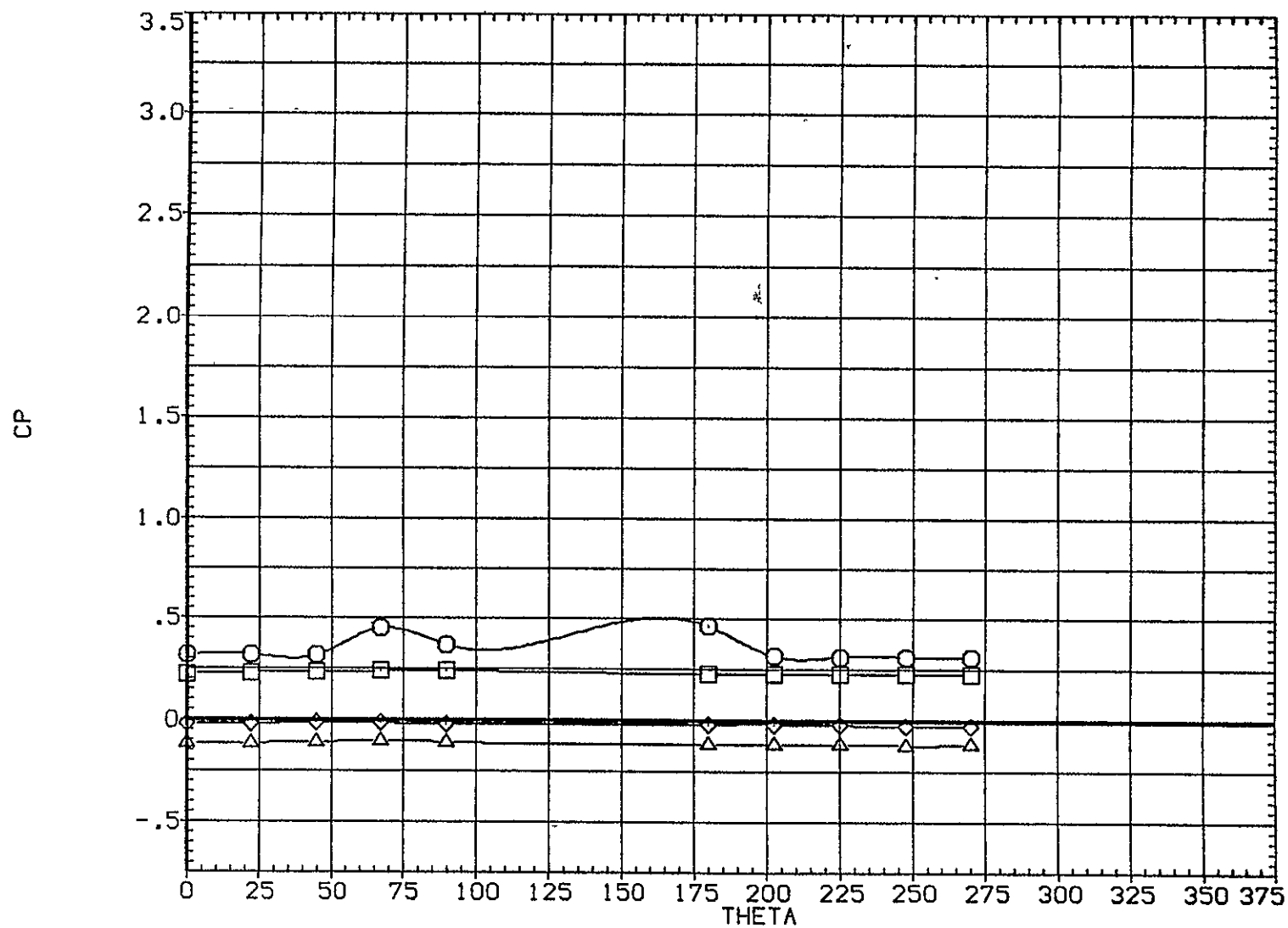
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G006)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	-.040	1.203	.000		.000
□	.131					
◇	.167					
△	.185					

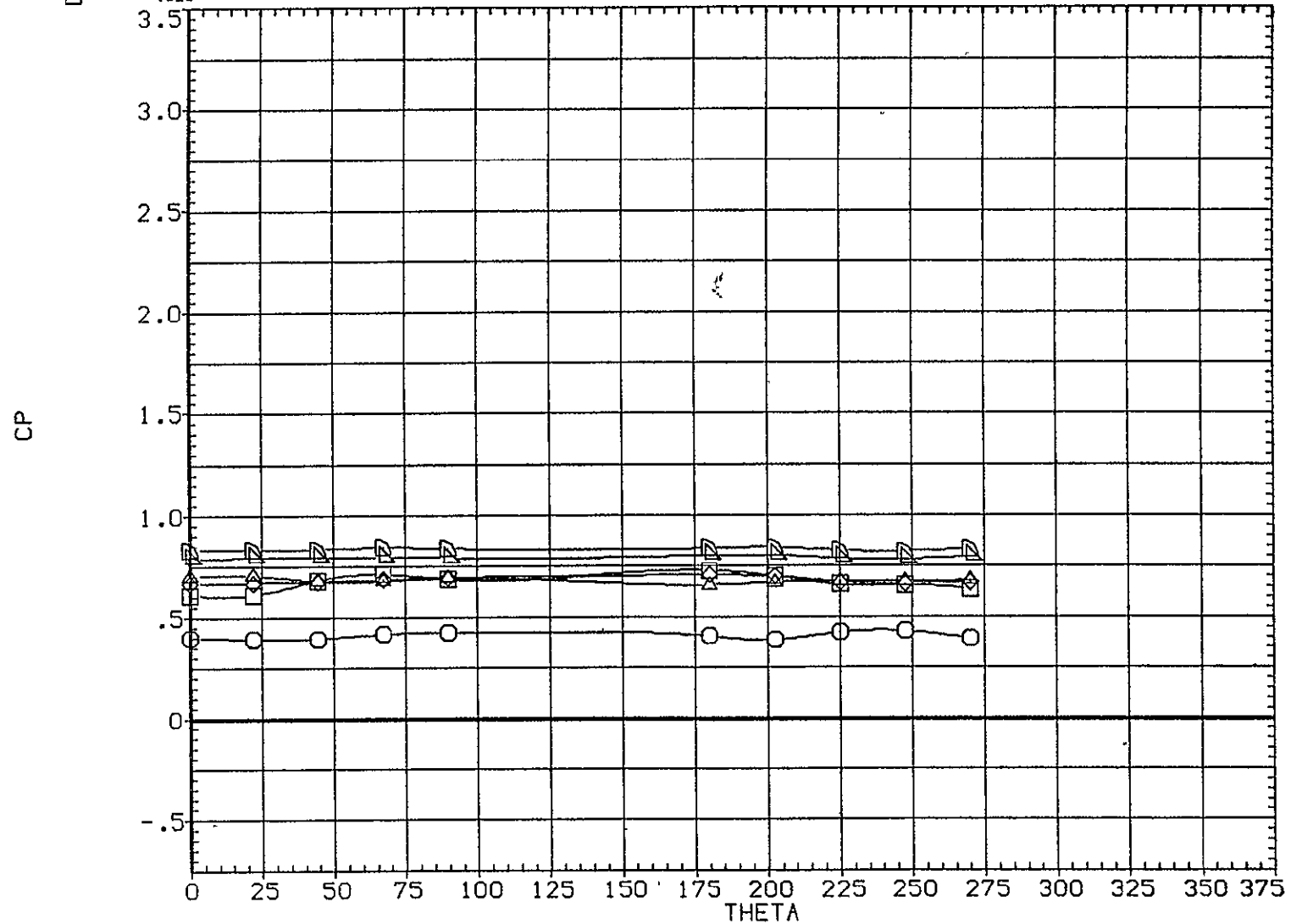


EFFECT OF RADIAL LOCATION ON PRESSURE

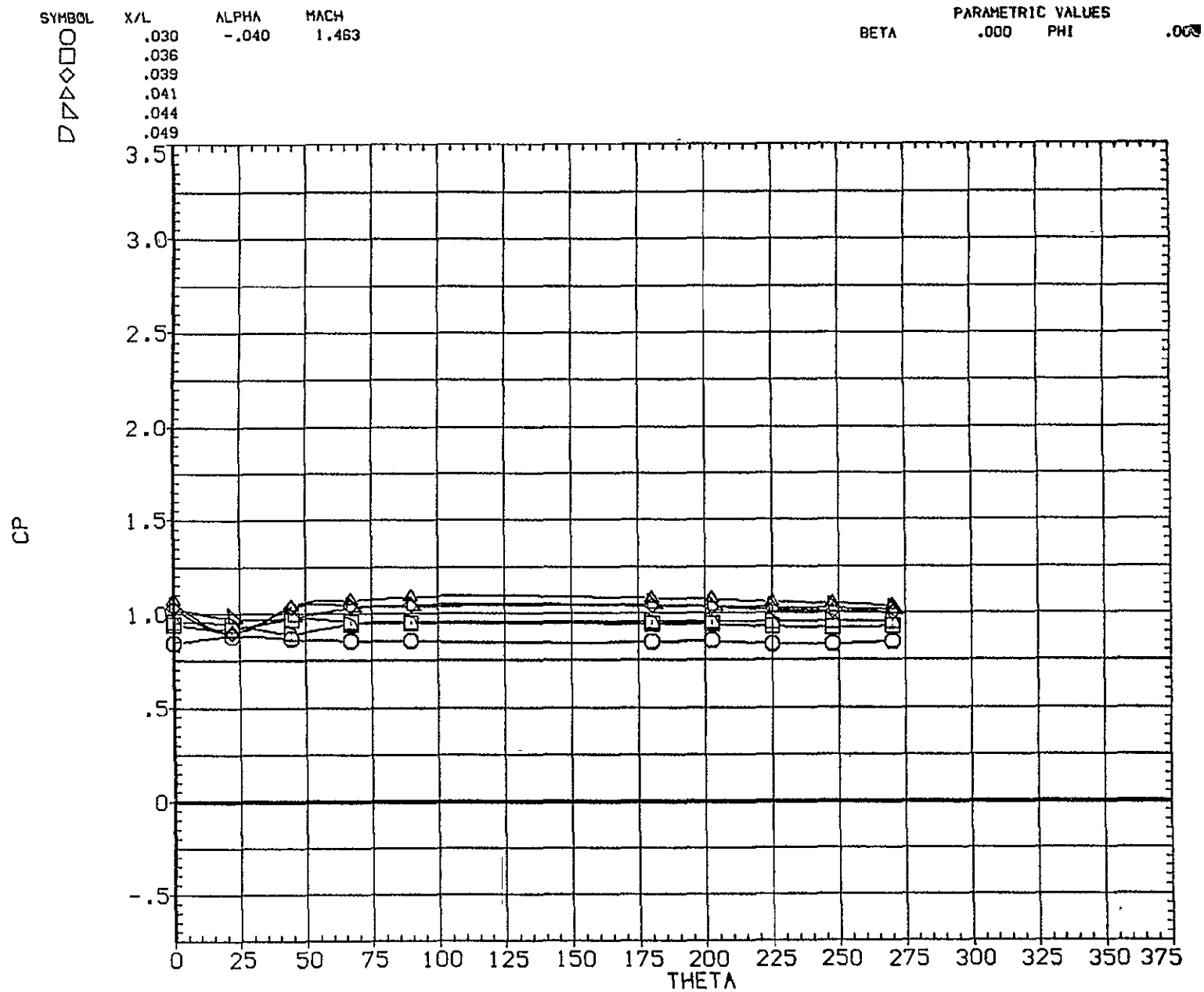
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G006)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES			
				BETA	.000	PHI	.000
□	.016	-.040	1.463				
◇	.018						
△	.020						
▽	.022						
◊	.025						
○	.028						



EFFECT OF RADIAL LOCATION ON PRESSURE

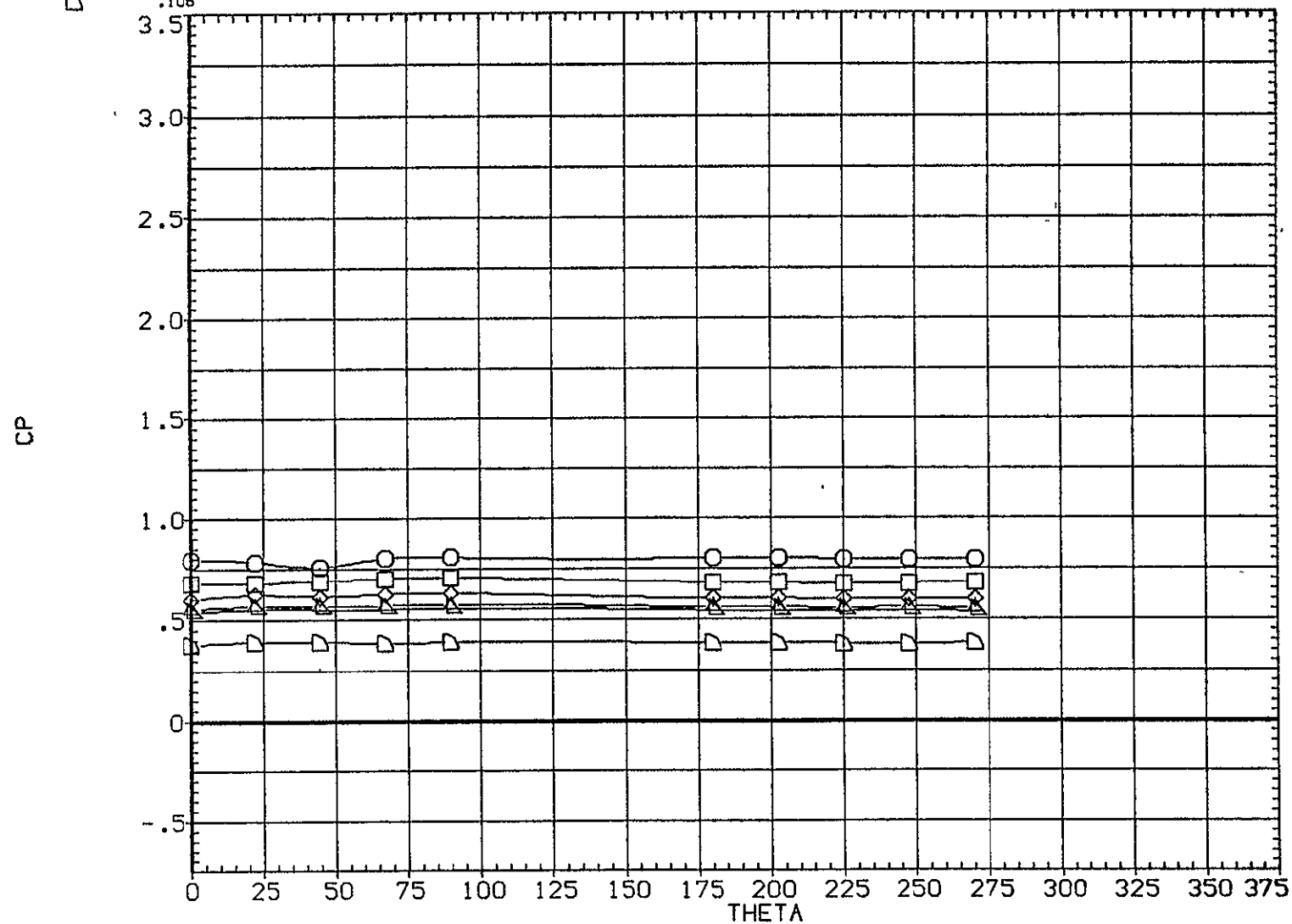


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

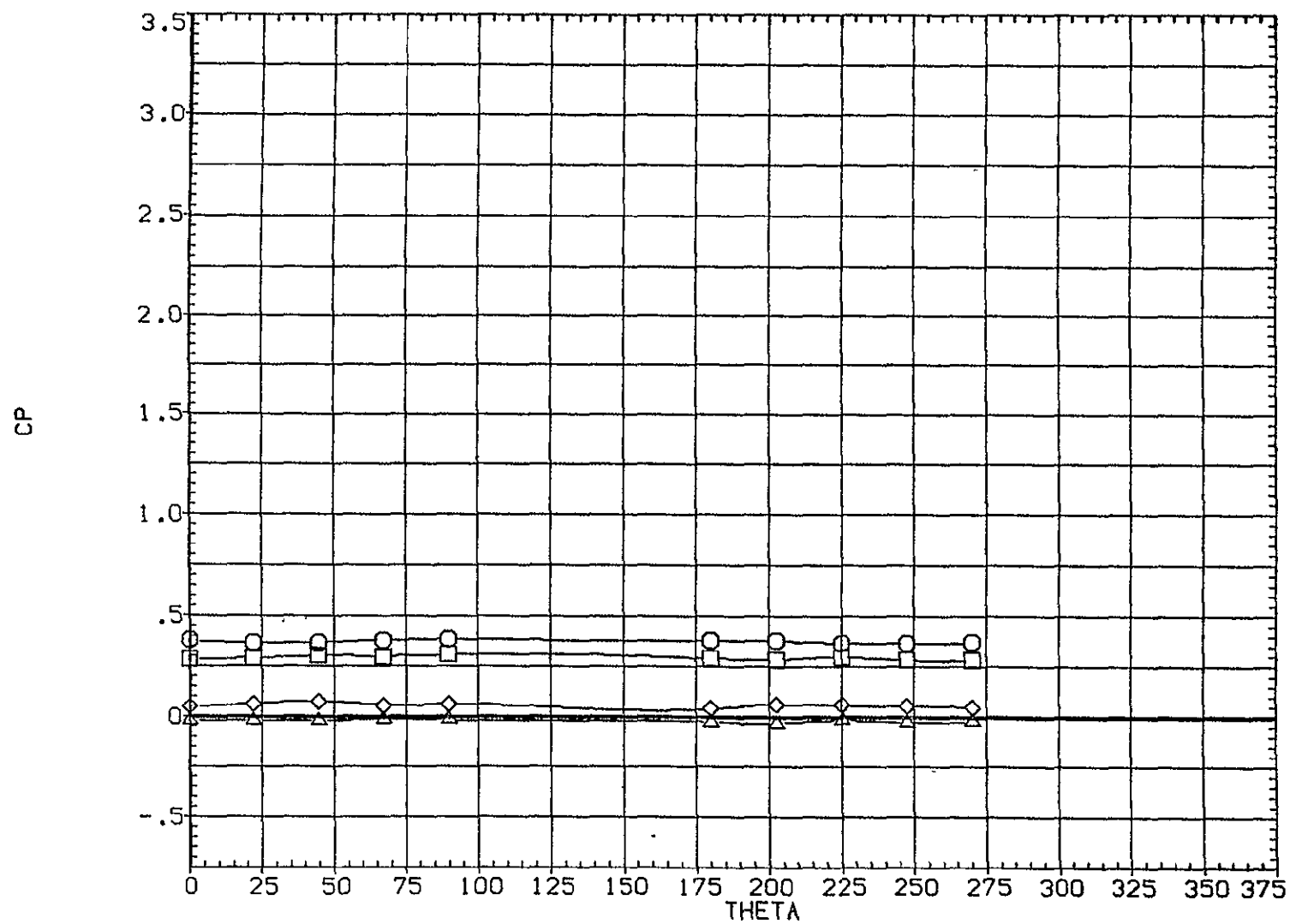
(B16006)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	-.040	1.463			
□	.068					
◇	.077					
△	.085					
▽	.093					
◐	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

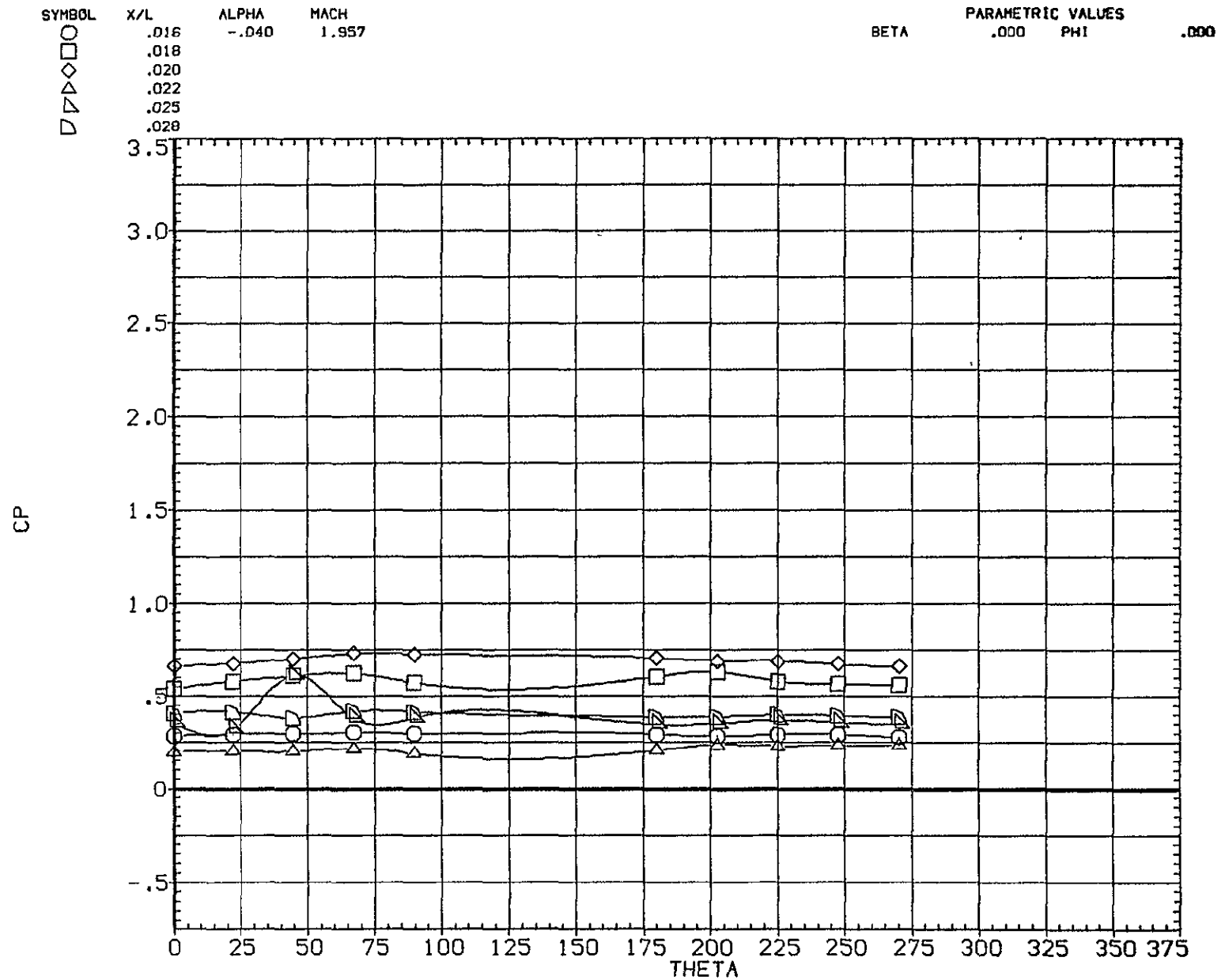
SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	-.040	1.463		.000		.000
□	.131						
◇	.167						
△	.185						



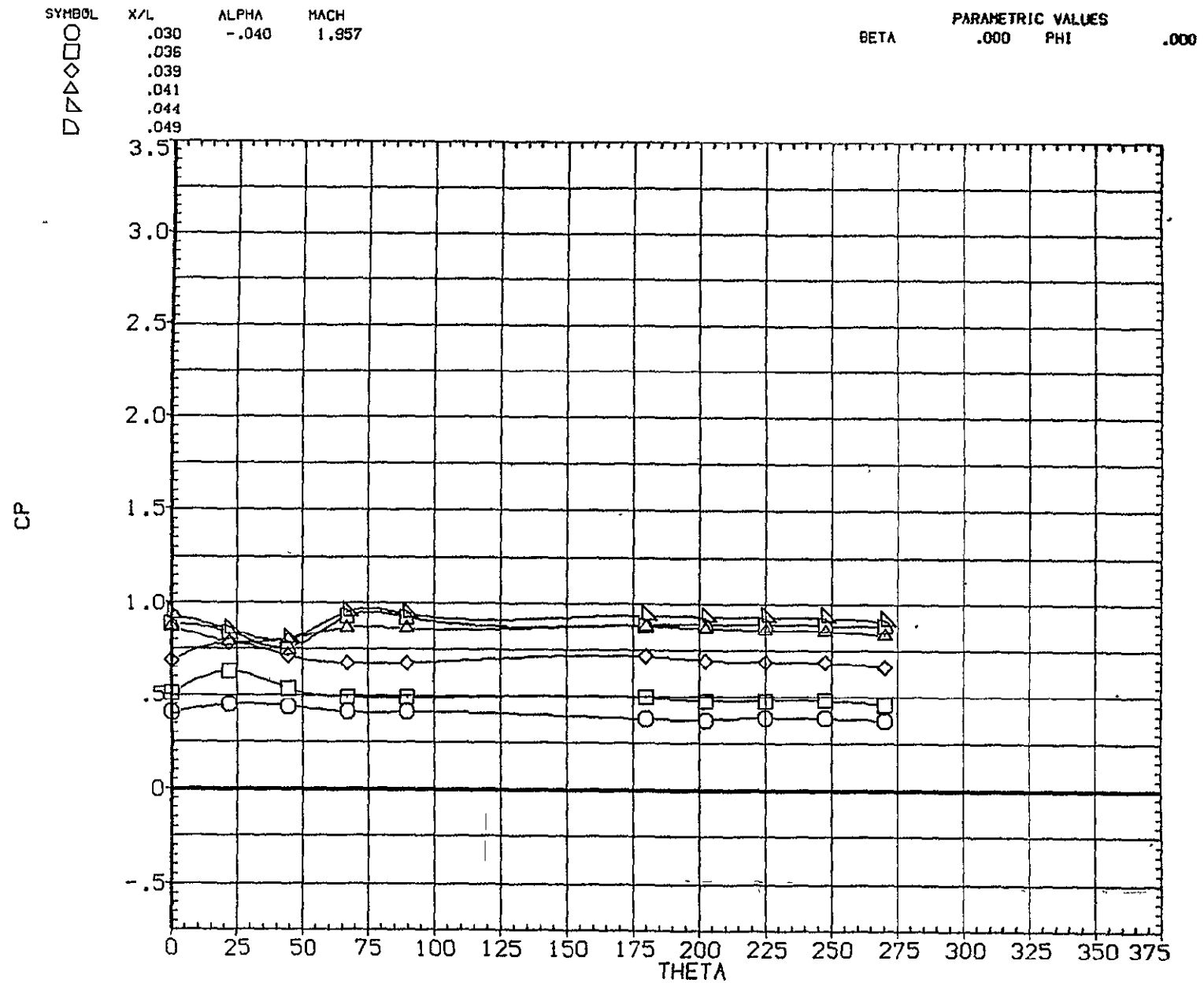
EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G006)



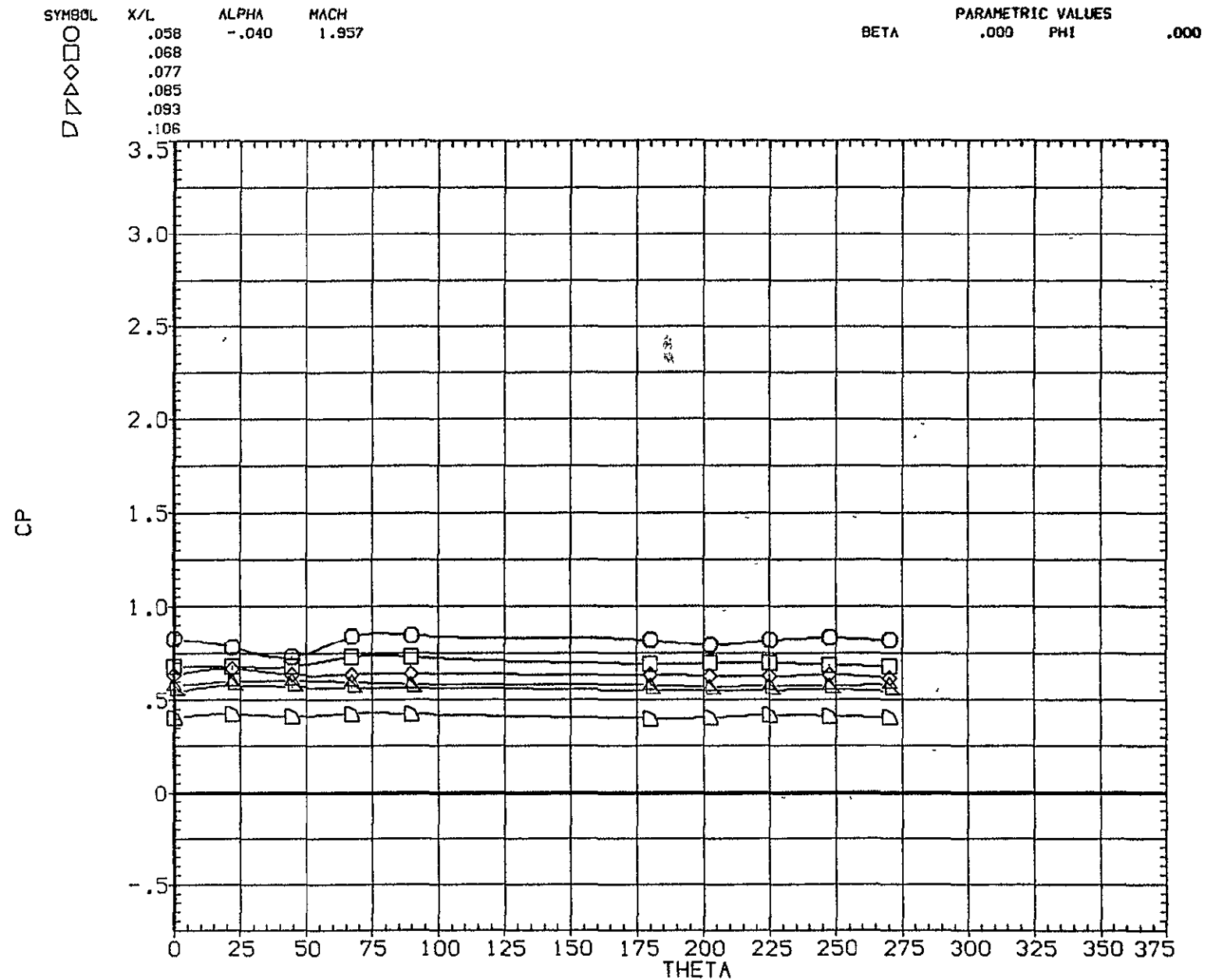
EFFECT OF RADIAL LOCATION ON PRESSURE





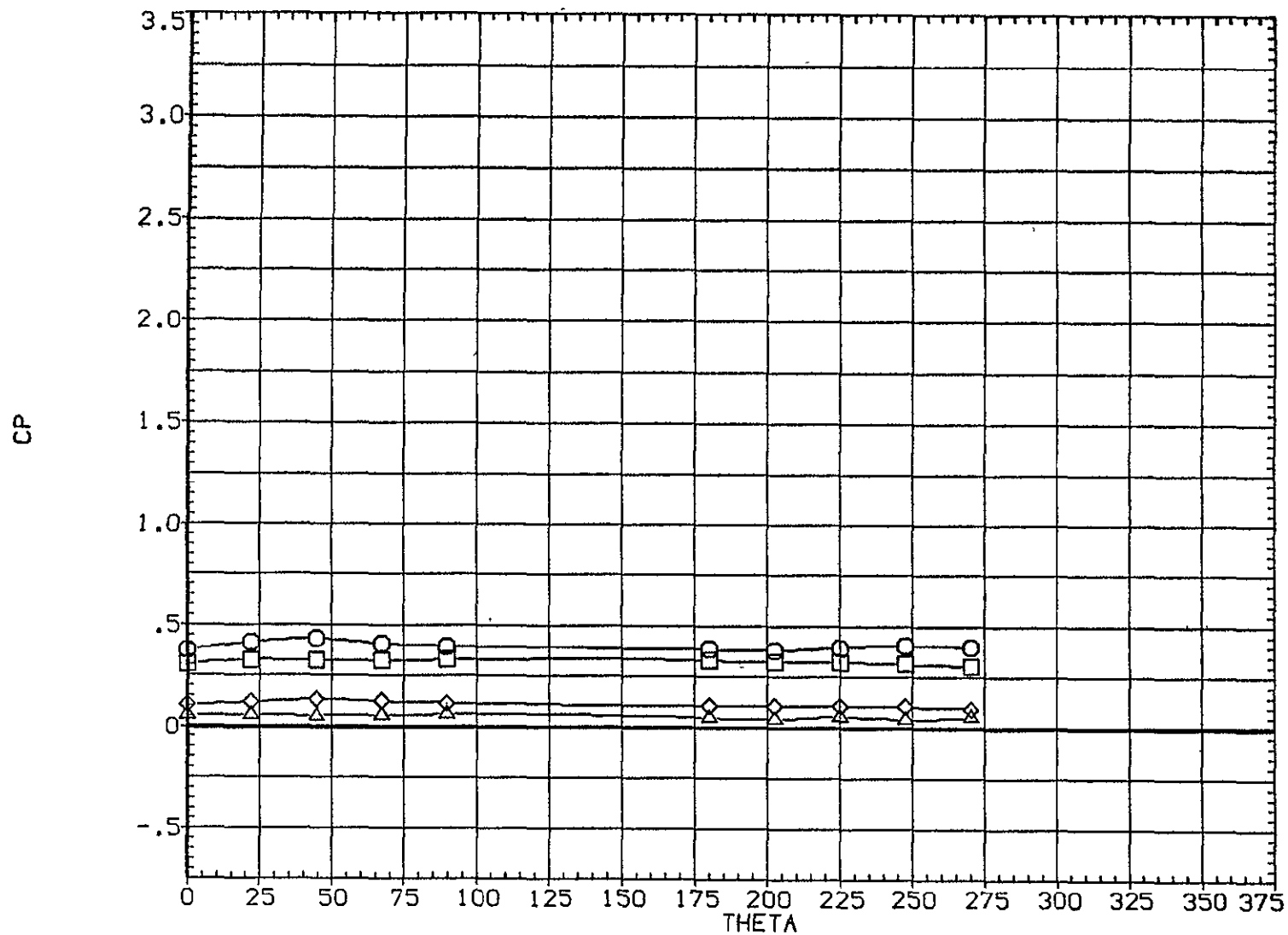
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G006)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	-.040	1.957		.000		.000
□	.131						
◇	.167						
△	.185						

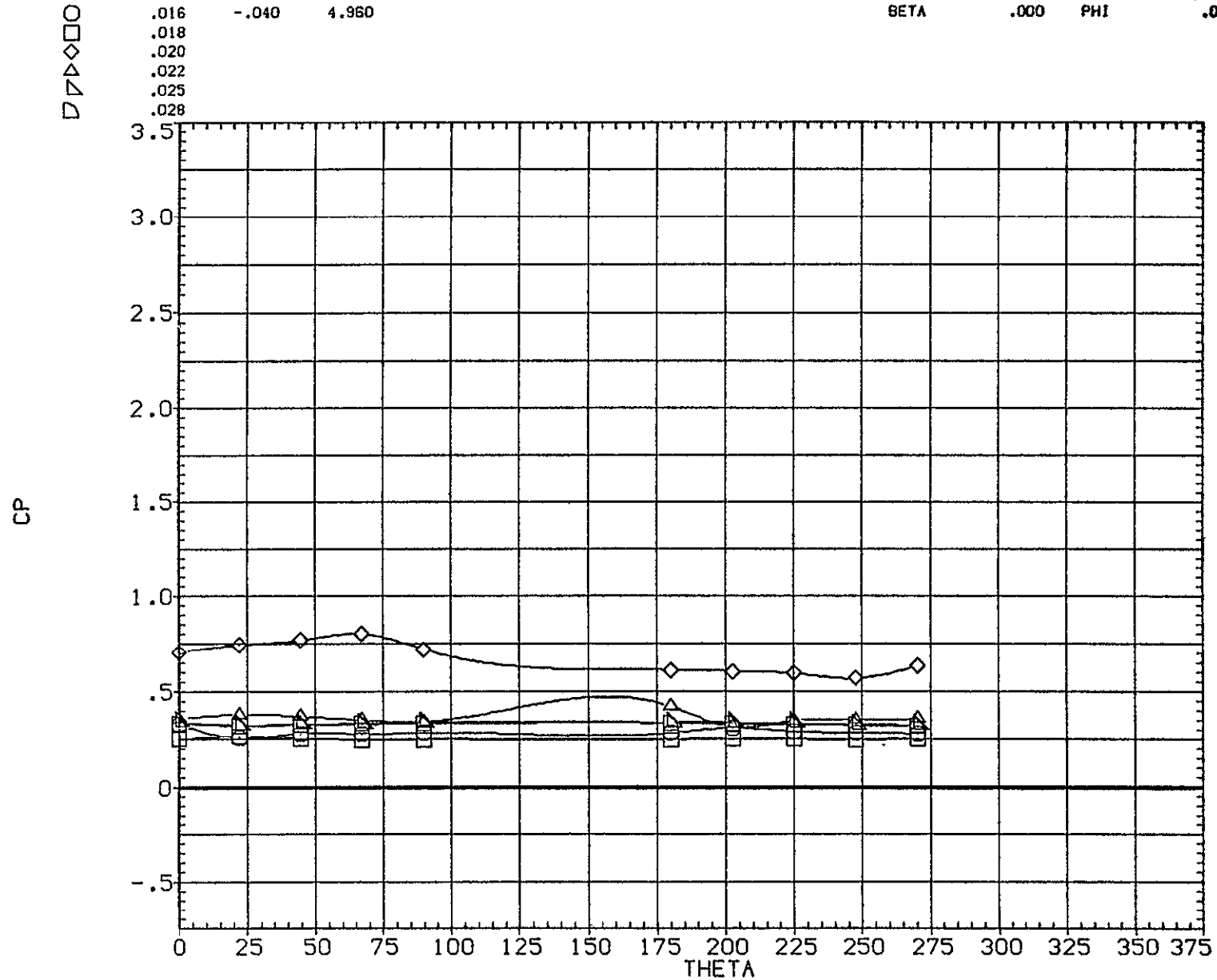


EFFECT OF RADIAL LOCATION ON PRESSURE

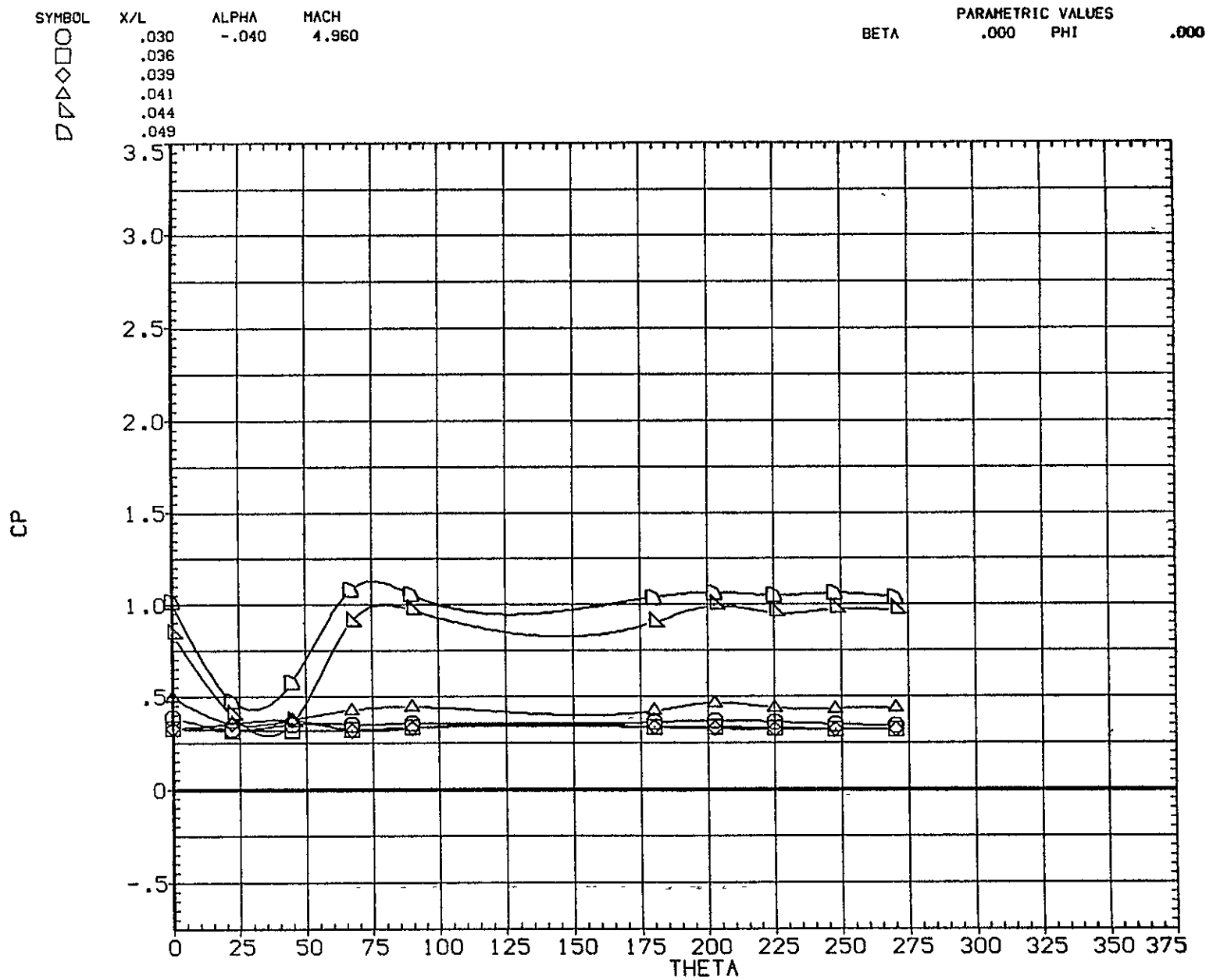
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G006)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
	.016	-.040	4.960		.000	PHI	.000



EFFECT OF RADIAL LOCATION ON PRESSURE

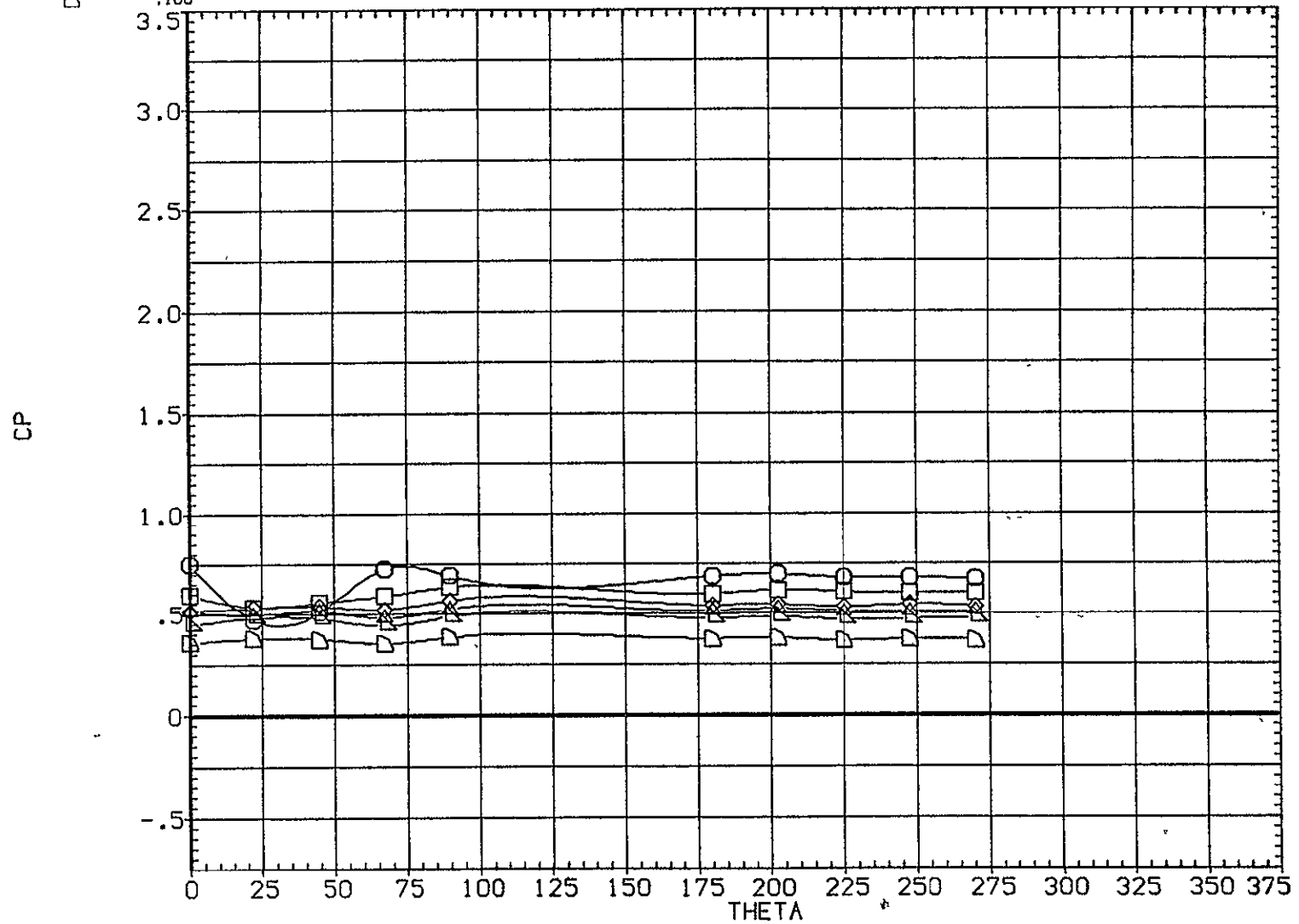


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

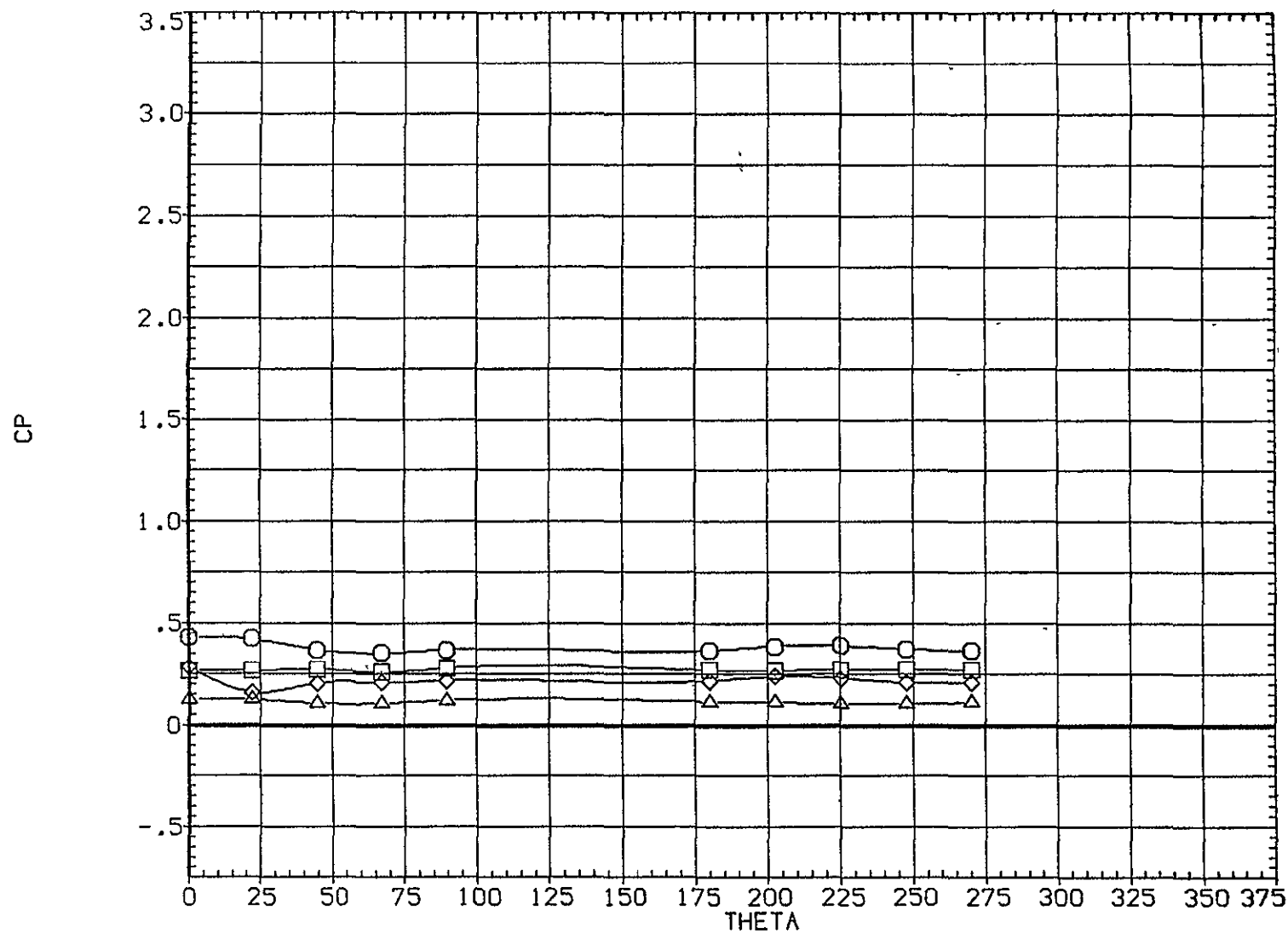
(B1G006)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
		-.040	4.960	BETA	.000	PHI
	.058					.000
	.068					
	.077					
	.085					
.093						
.106						



EFFECT OF RADIAL LOCATION ON PRESSURE

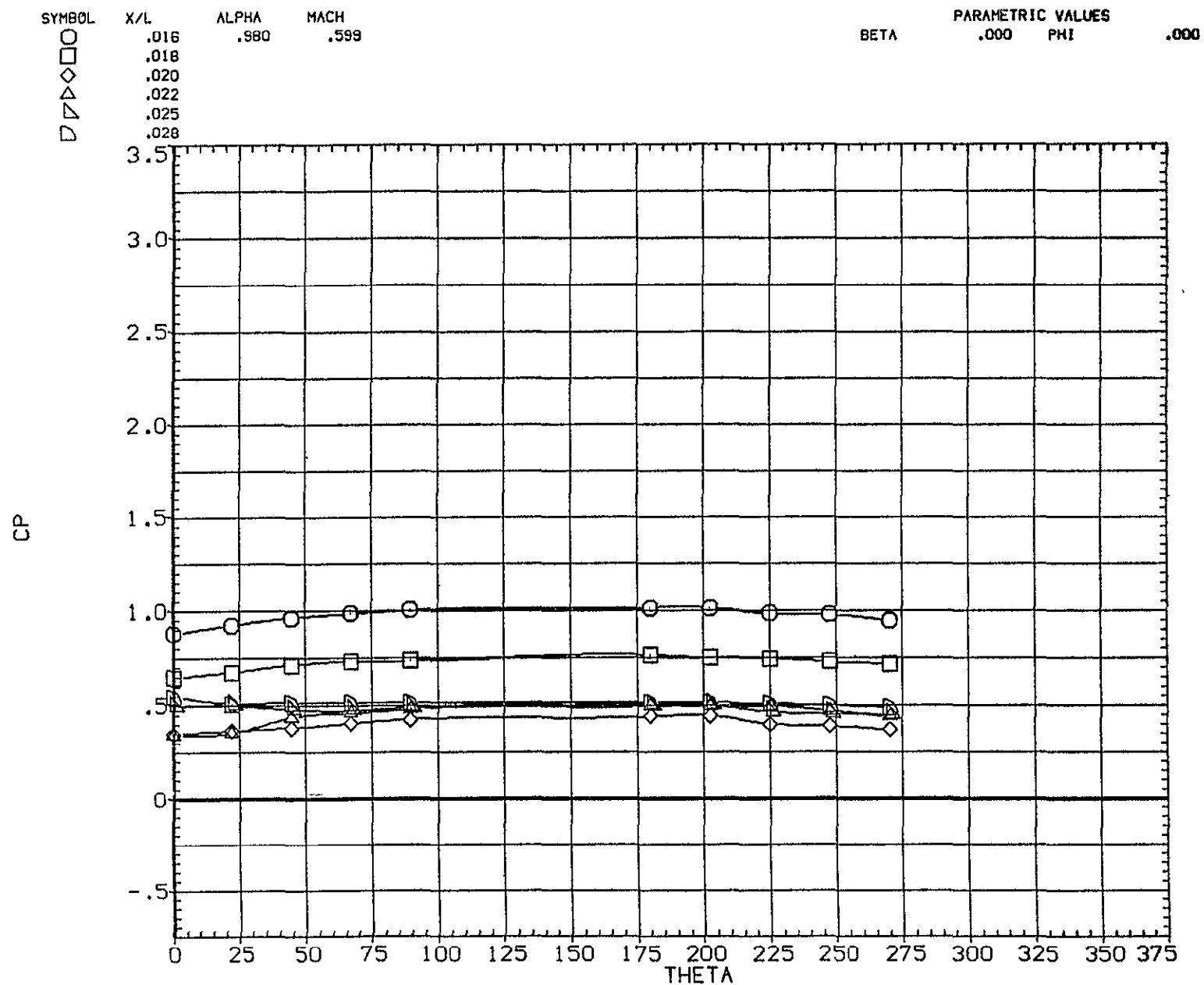
SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.000
○	.118	-.040	4.960				
□	.131						
◇	.167						
△	.185						



EFFECT OF RADIAL LOCATION ON PRESSURE

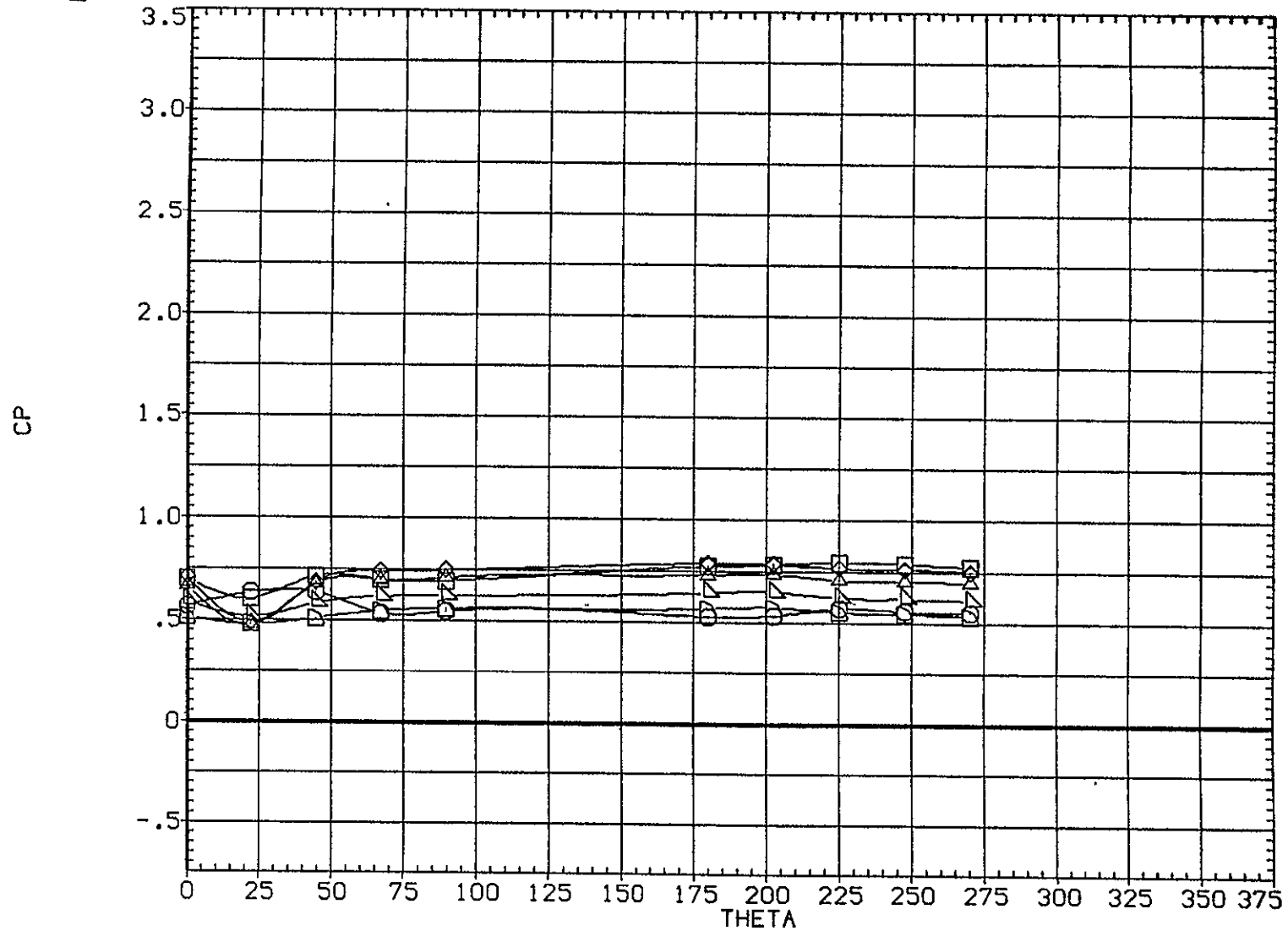
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16007)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	.980	.599			
◇	.036					
△	.039					
▽	.041					
□	.044					
◇	.049					



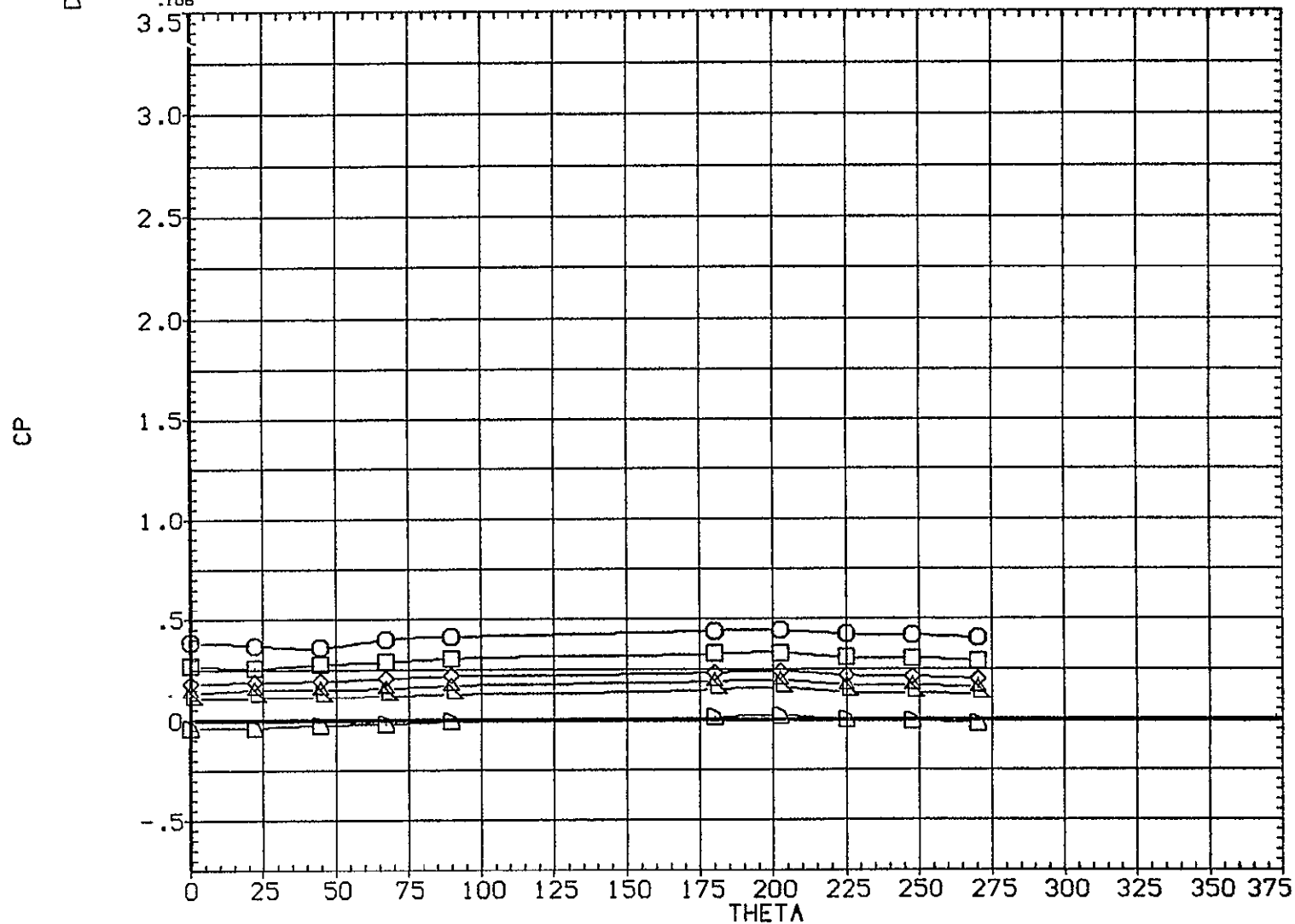
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

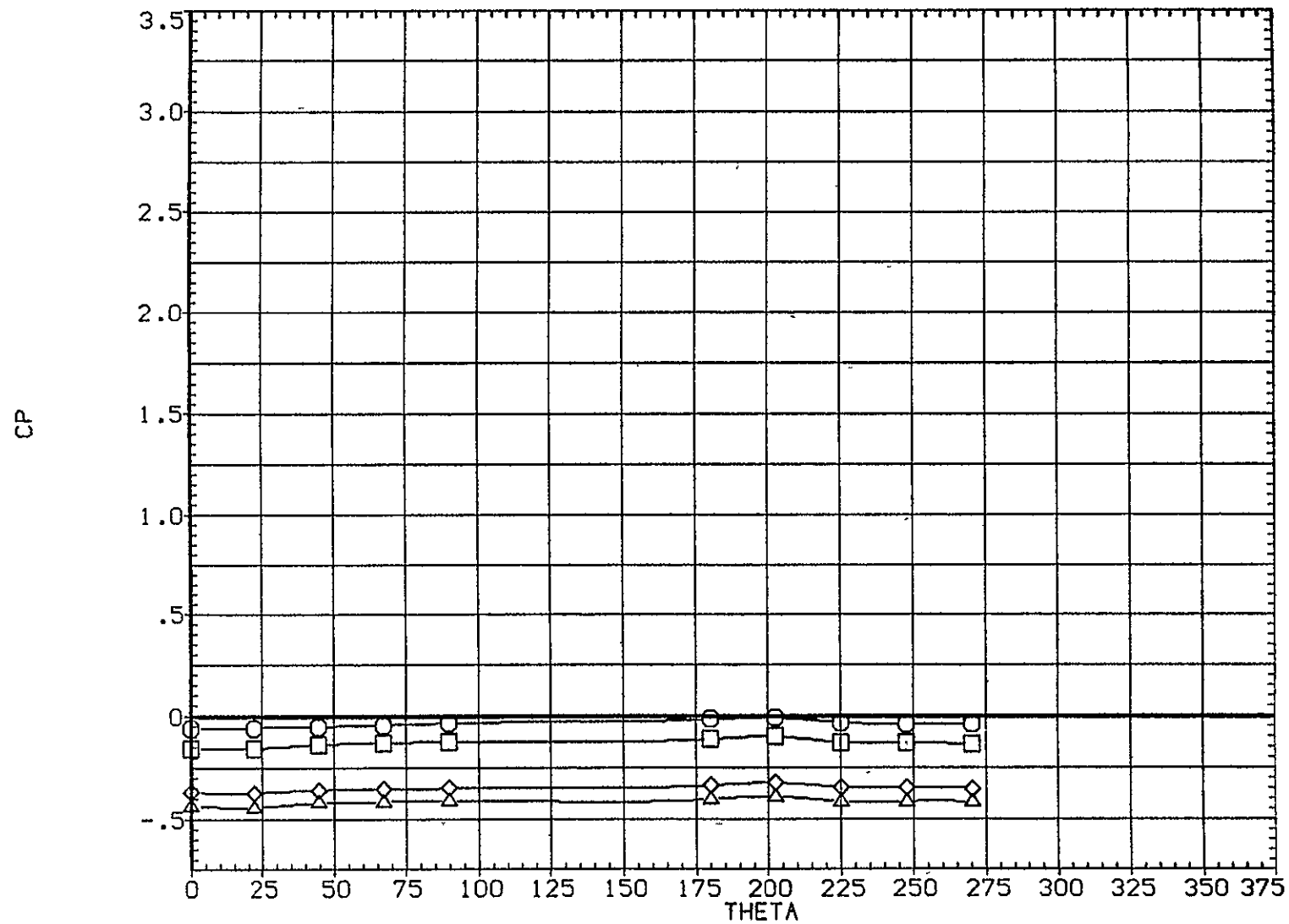
(B1G007)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	.980	.599			
□	.068					
◇	.077					
△	.085					
▽	.093					
◻	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	.980	.599			
□	.131					
◇	.167					
△	.185					

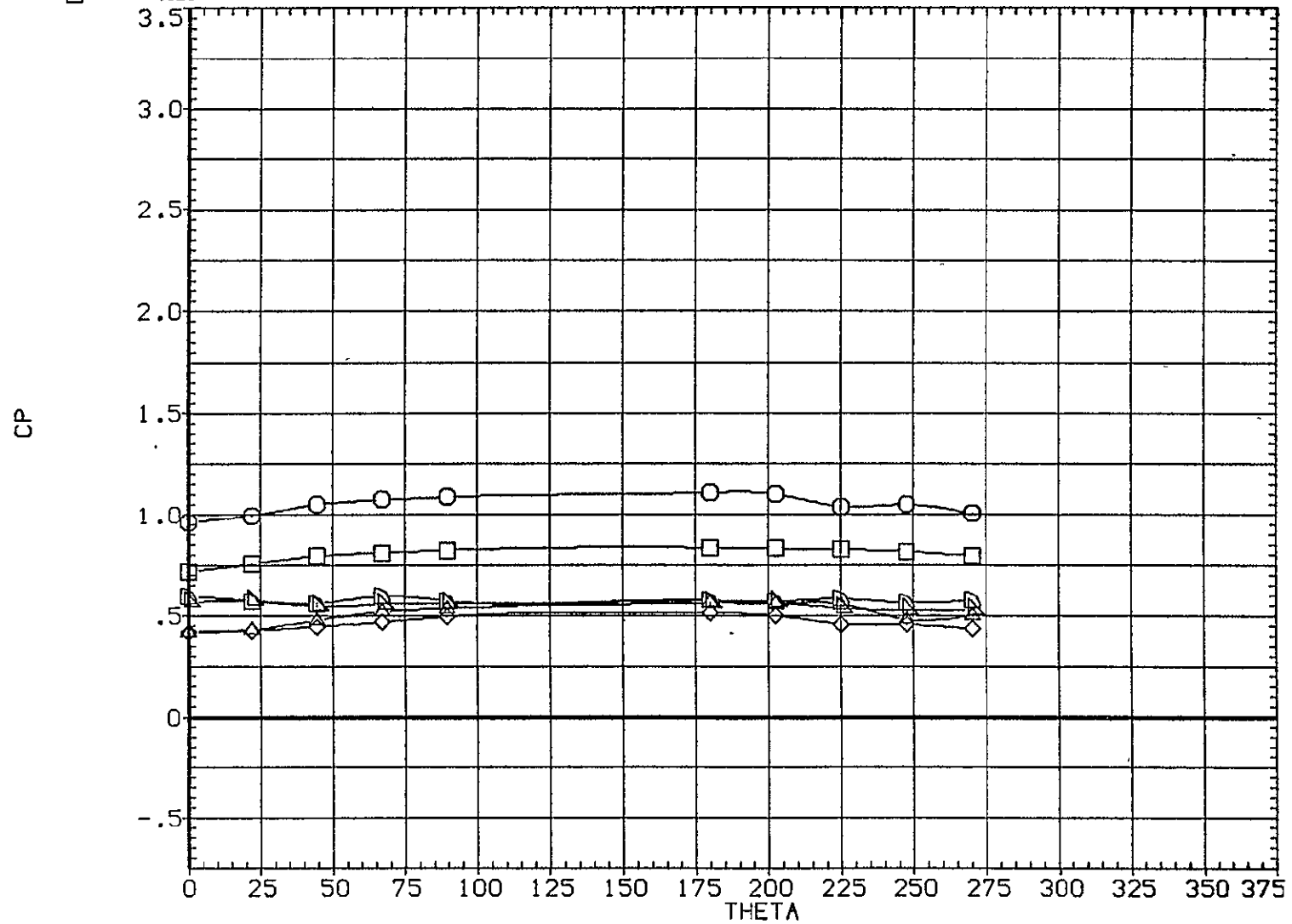


EFFECT OF RADIAL LOCATION ON PRESSURE

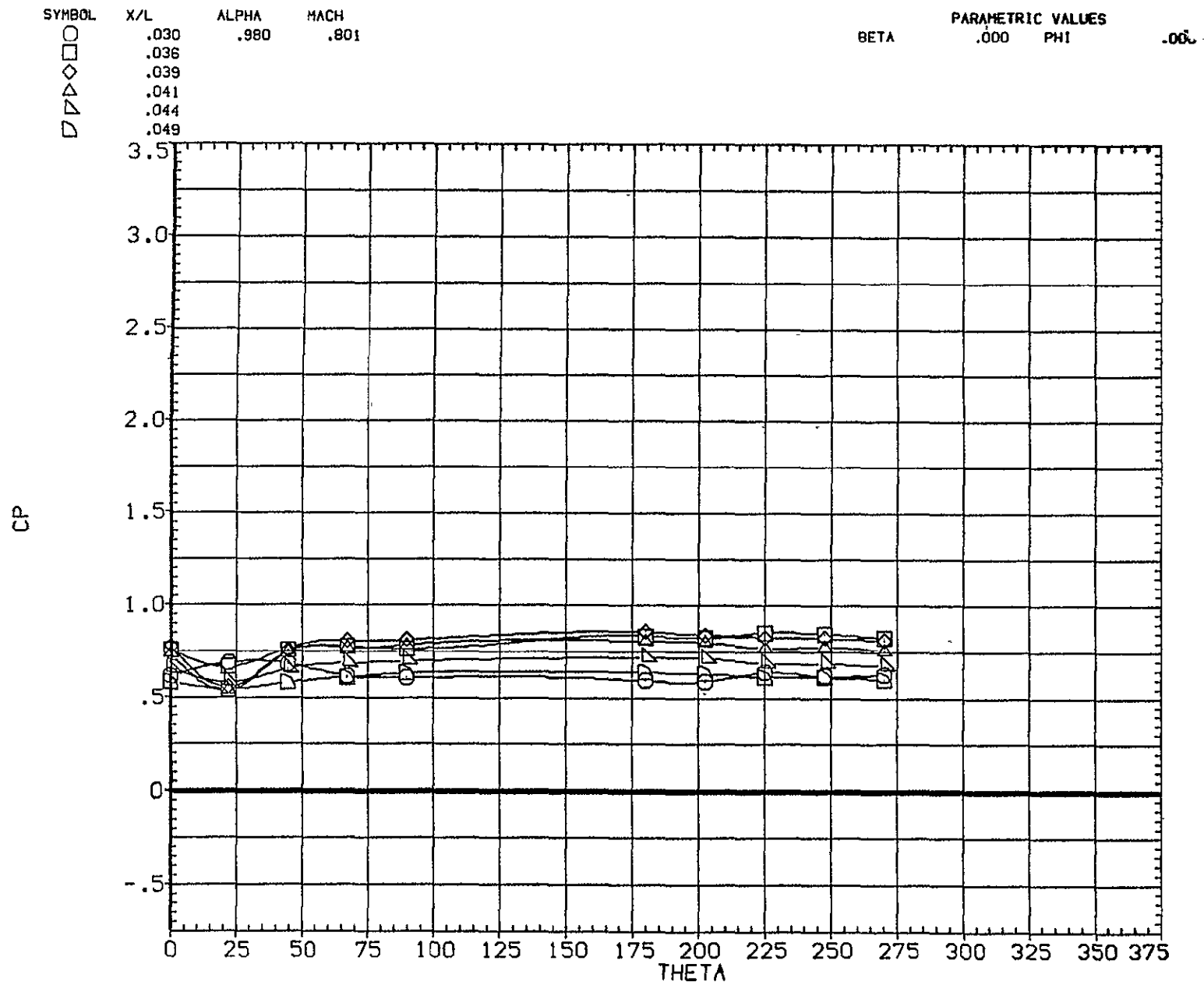
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16007)

SYMBOL	X/L	PARAMETRIC VALUES		BETA	PHI	
		ALPHA	MACH			
○	.016	.980	.801			
□	.018					
◇	.020					
△	.022					
▽	.025					
◊	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

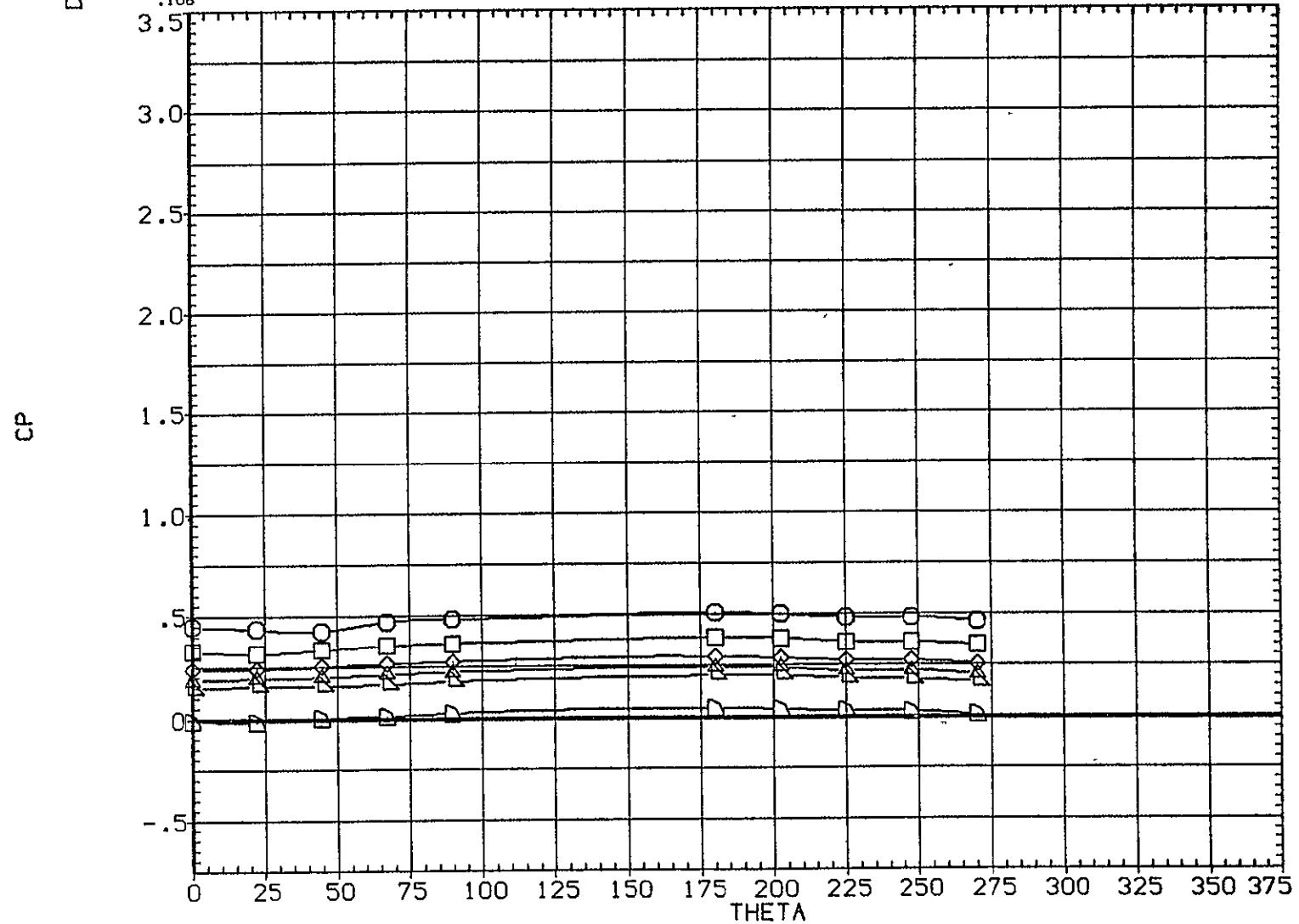


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

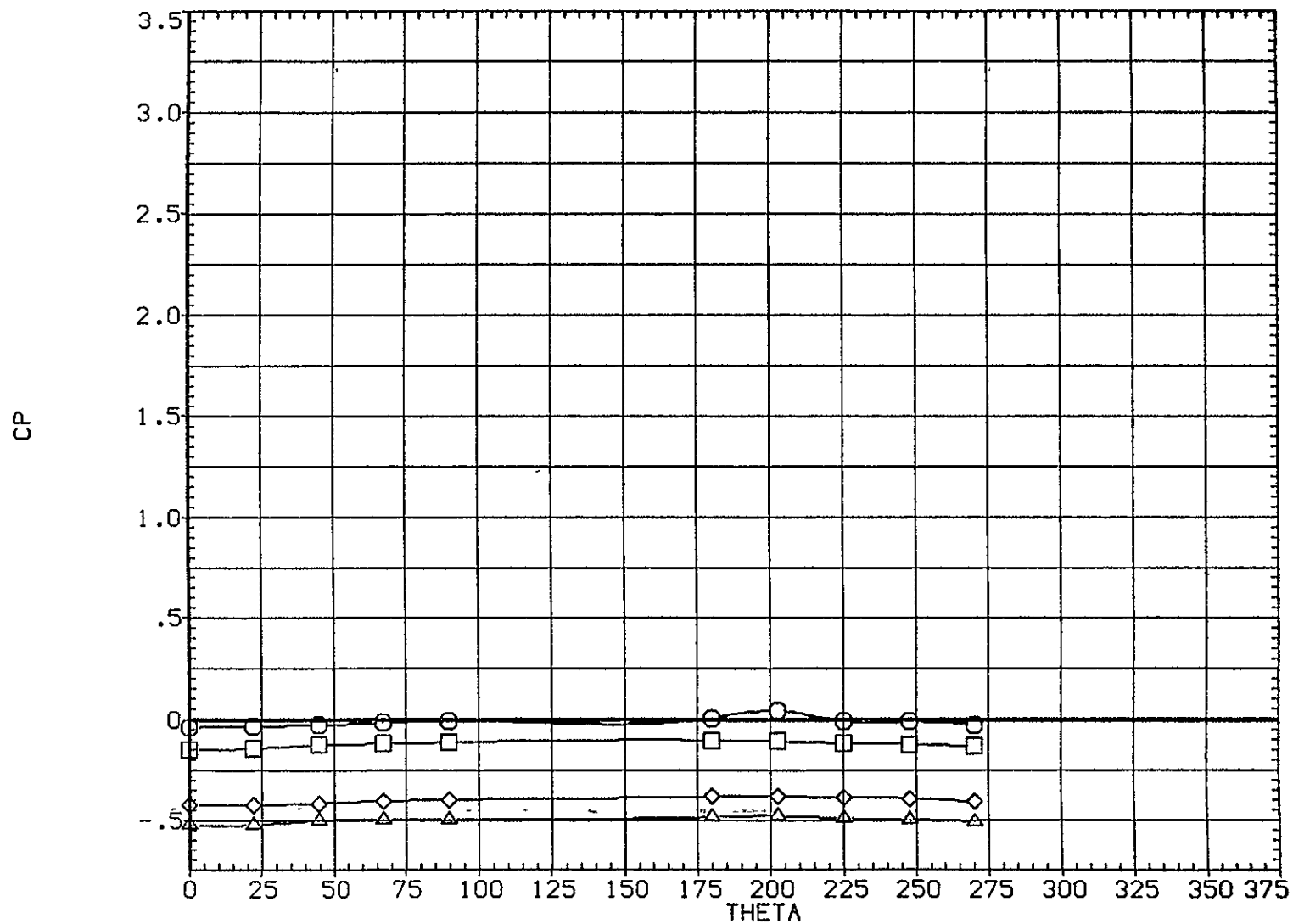
(B1G007)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	.980	.801			
□	.068					
◇	.077					
△	.085					
▽	.093					
◻	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	.980	.801			
□	.131					
◇	.167					
△	.185					

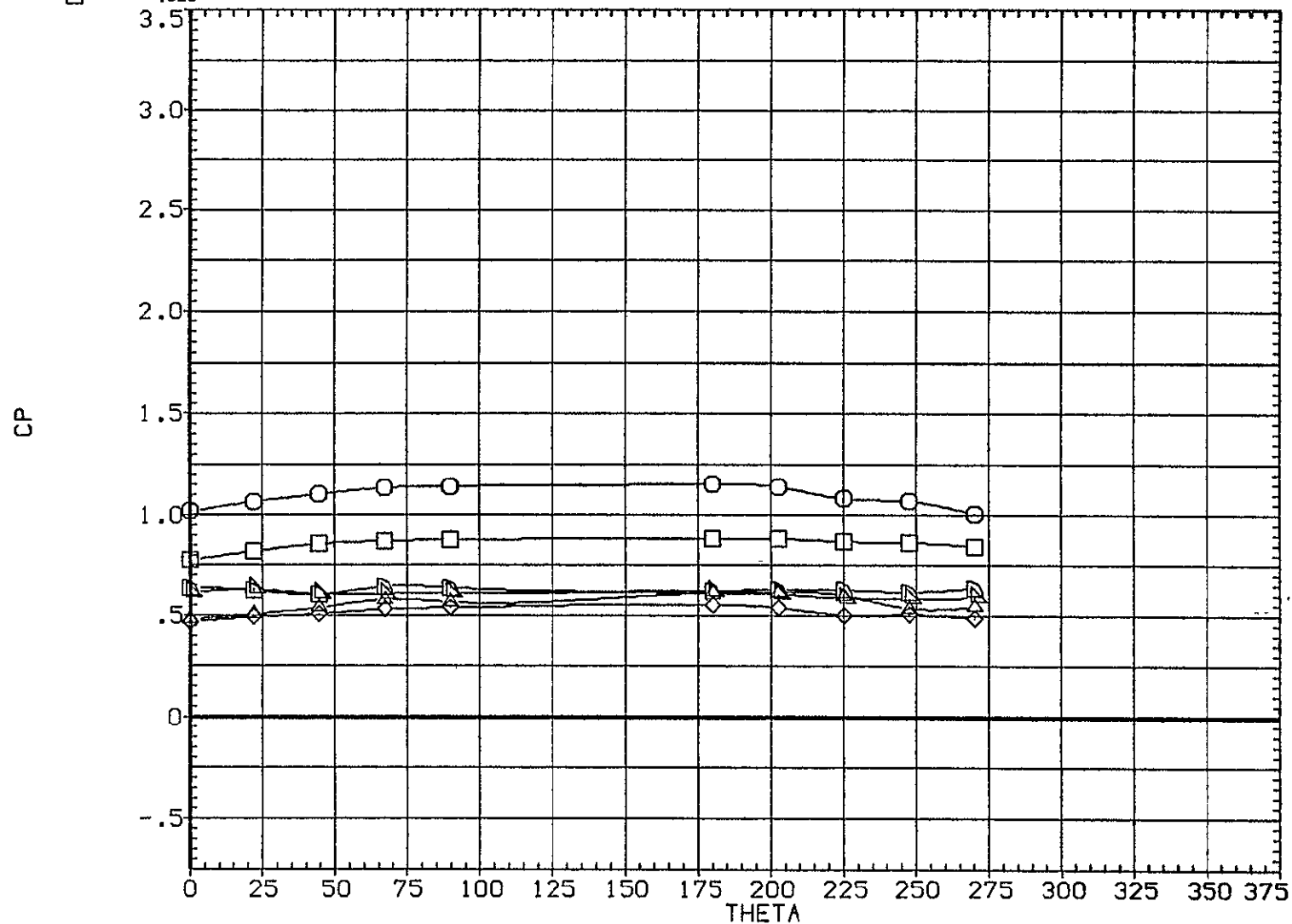


EFFECT OF RADIAL LOCATION ON PRESSURE

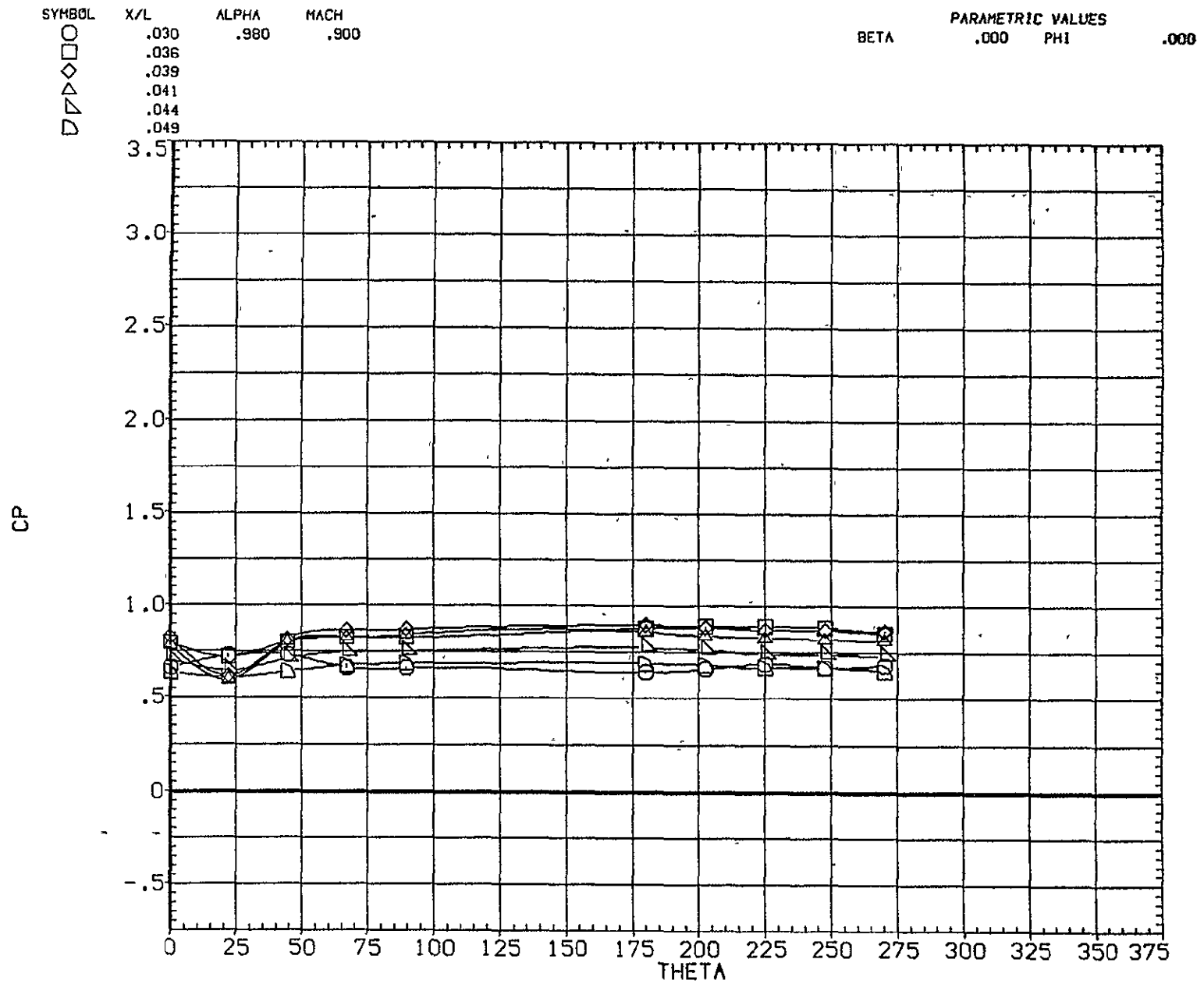
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16007)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	.980	.900			
□	.018					
△	.020					
▽	.022					
◇	.025					
	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

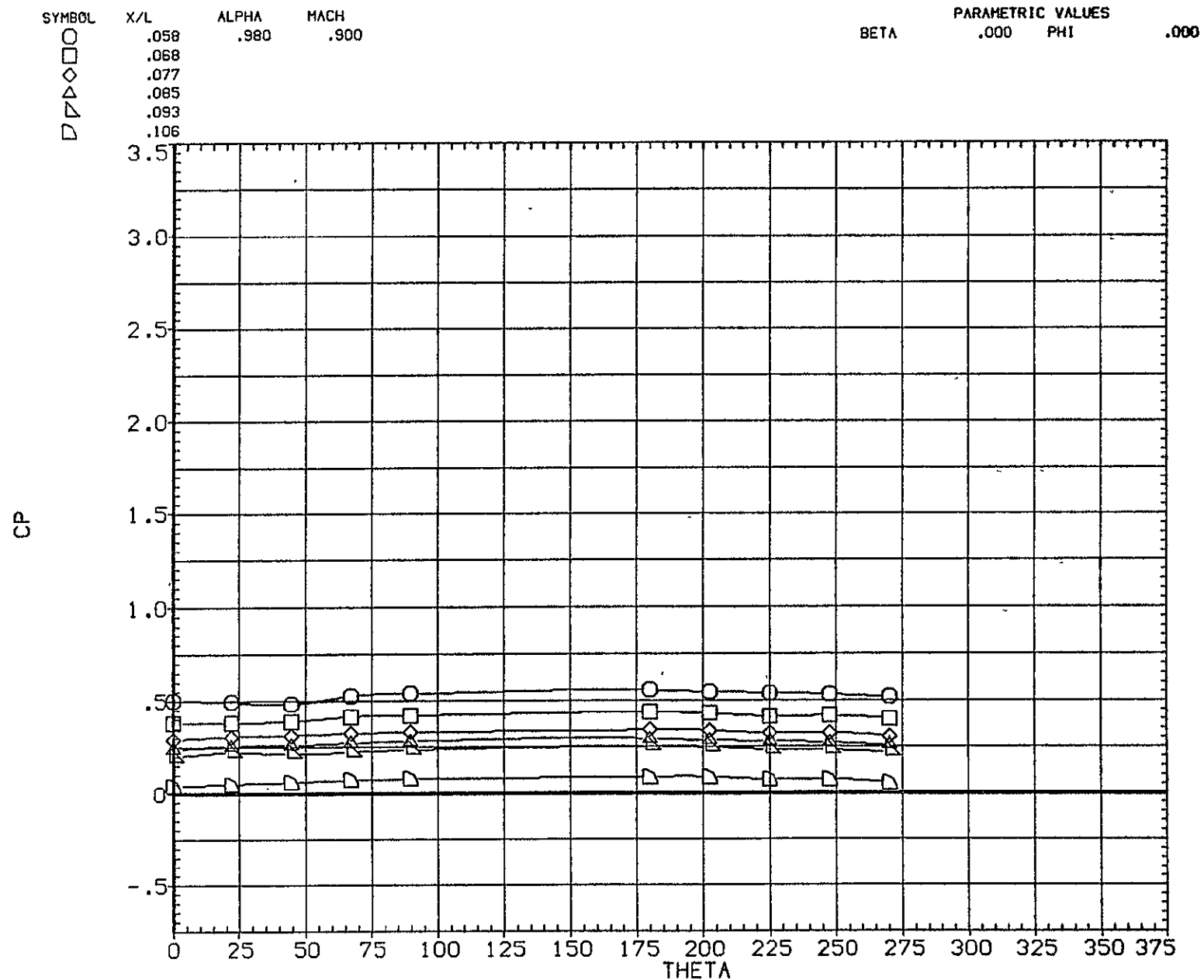


EFFECT OF RADIAL LOCATION ON PRESSURE



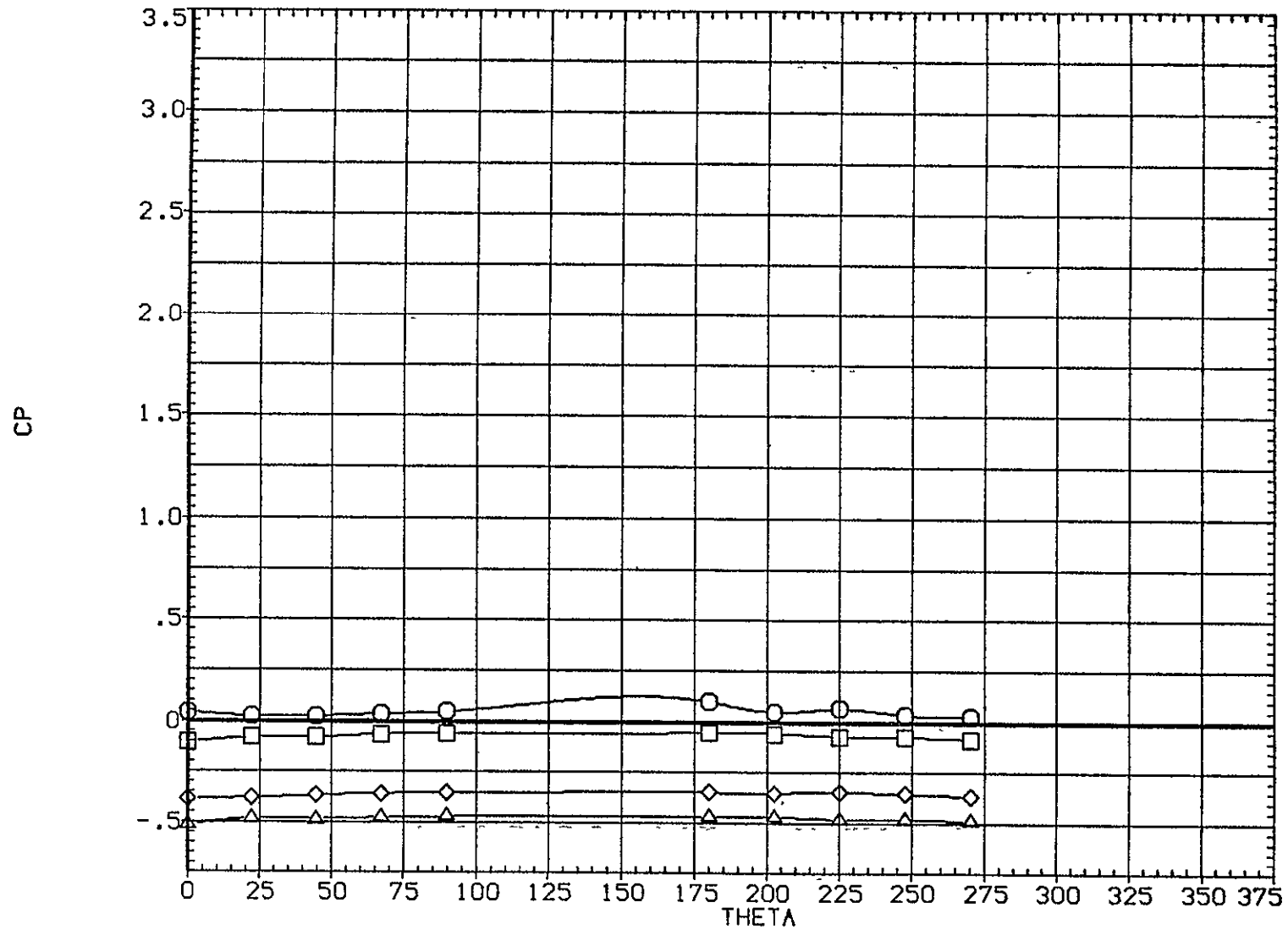
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16007)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	.980	.900			
□	.131					
◇	.167					
△	.185					

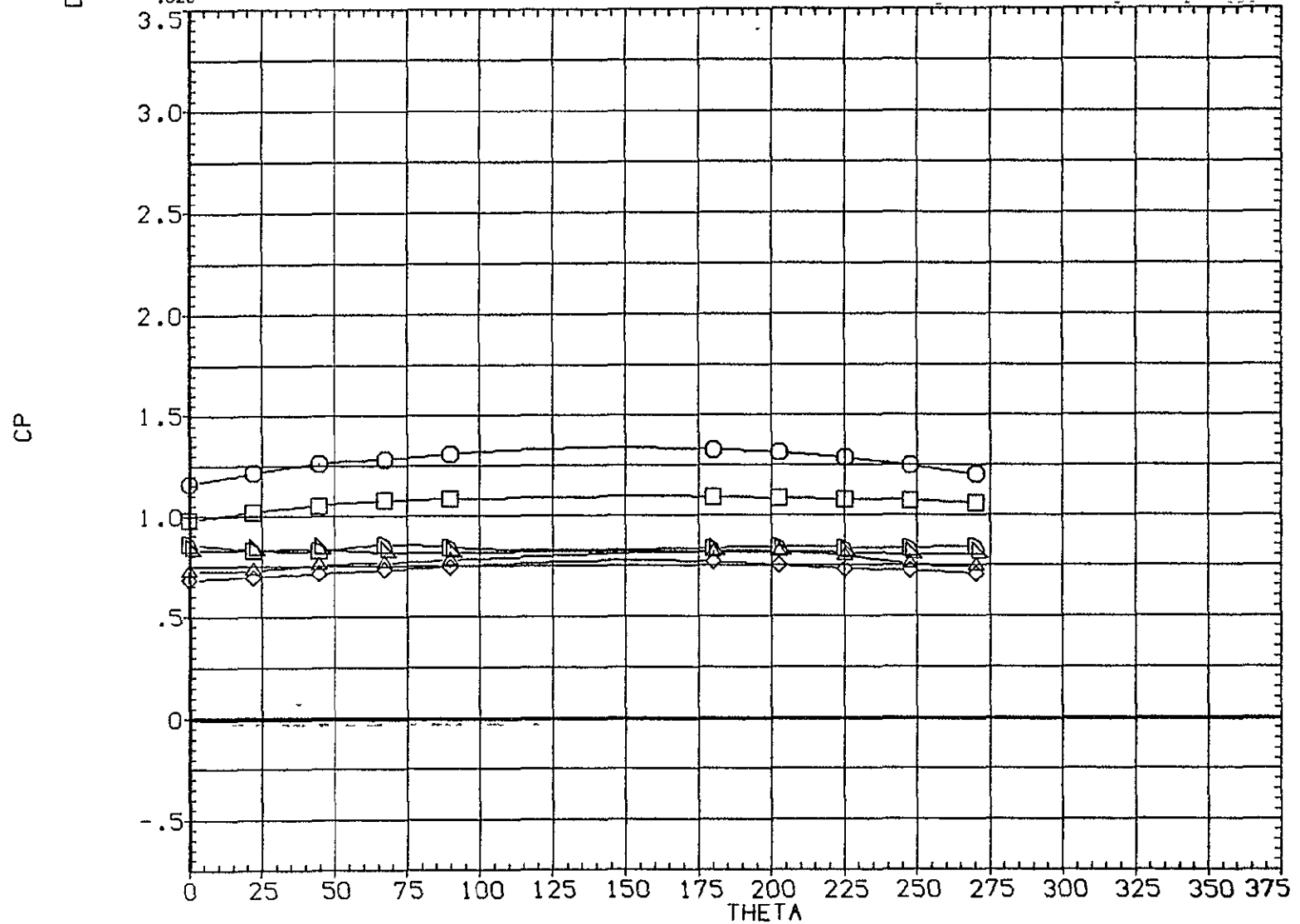


EFFECT OF RADIAL LOCATION ON PRESSURE

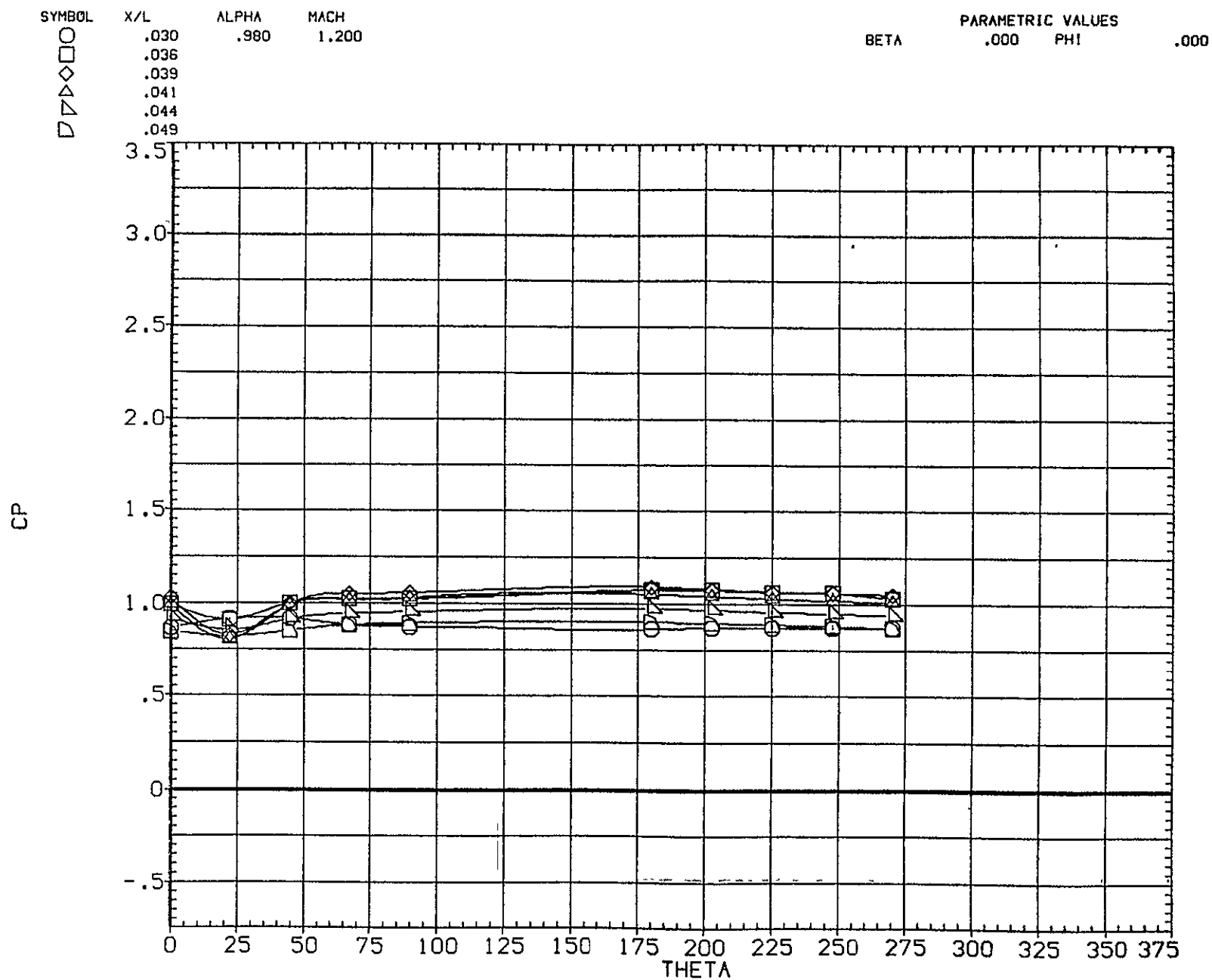
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G007)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	.990	1.200			
□	.018					
◇	.020					
△	.022					
▽	.025					
◊	.028					



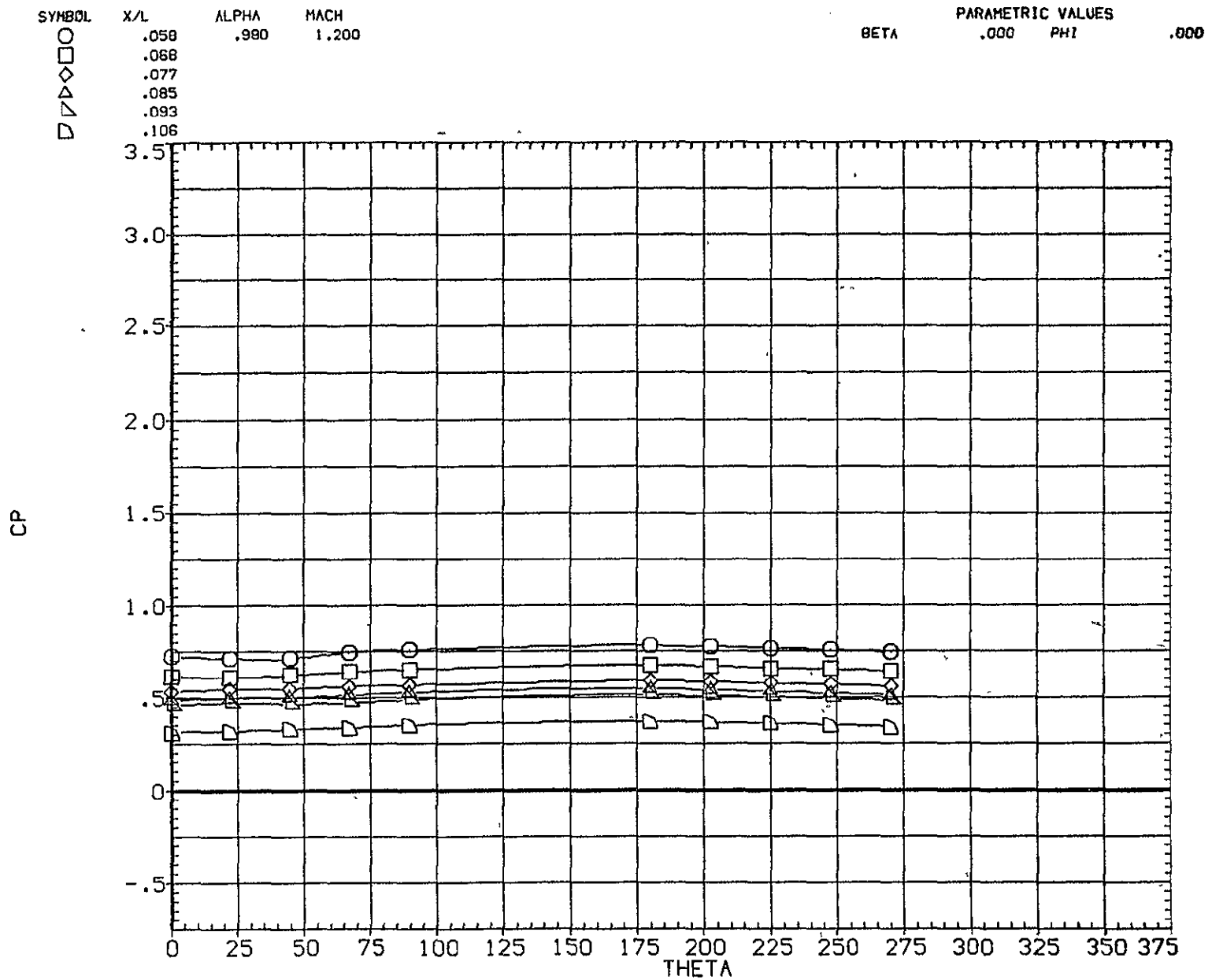
EFFECT OF RADIAL LOCATION ON PRESSURE



EFFECT OF RADIAL LOCATION ON PRESSURE

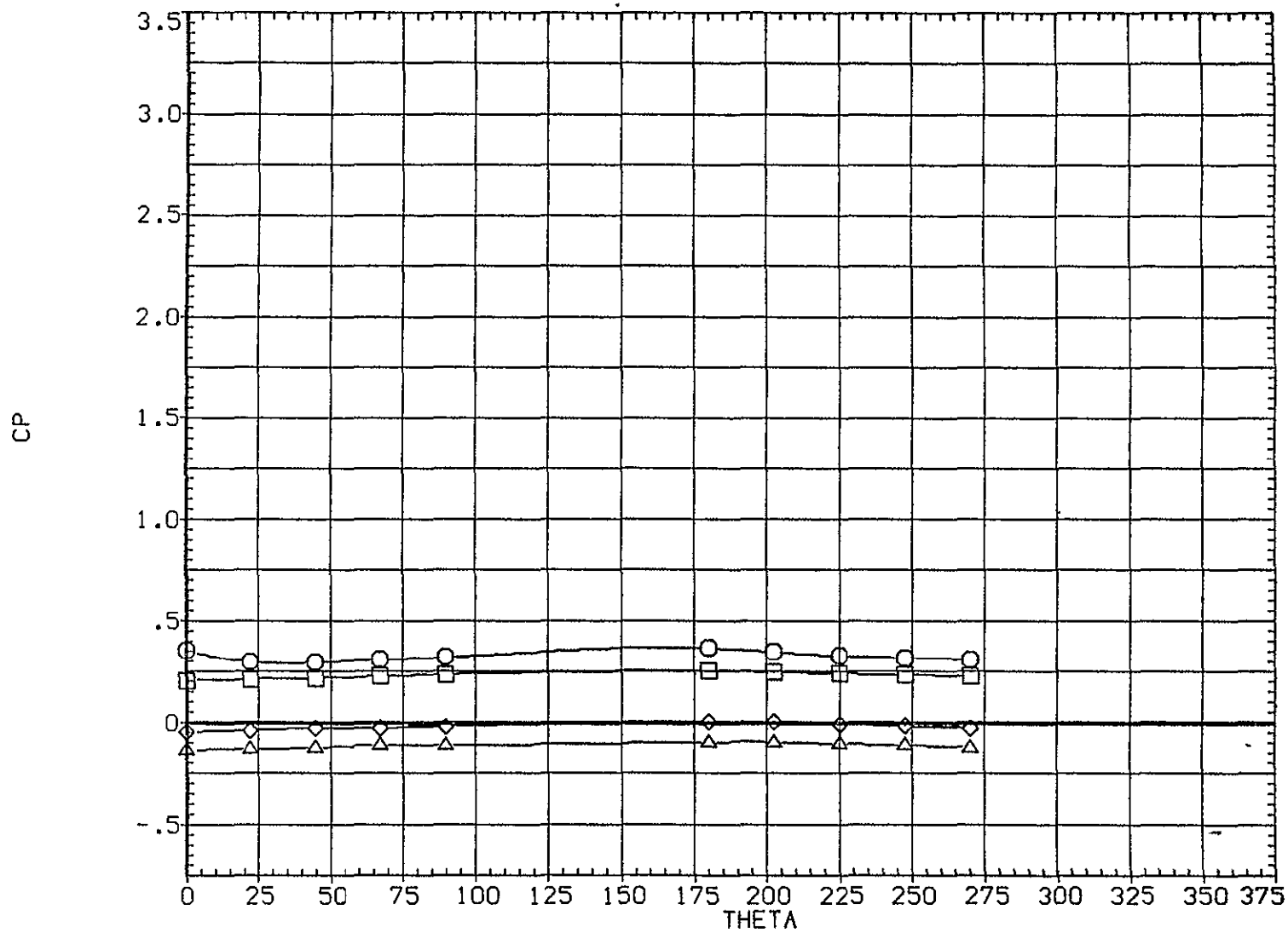
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G007)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	.980	1.200			
□	.131					
◇	.167					
△	.185					

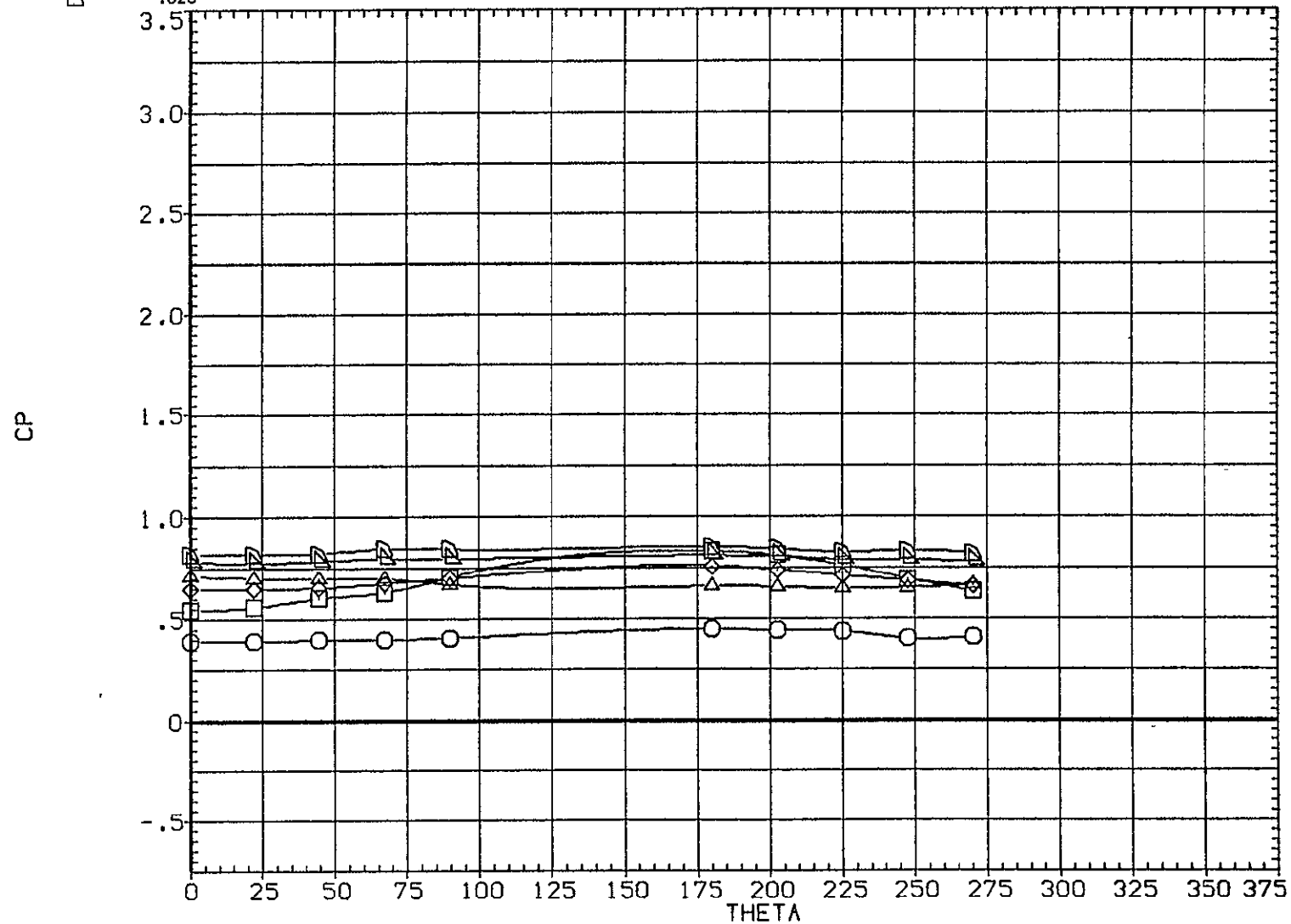


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

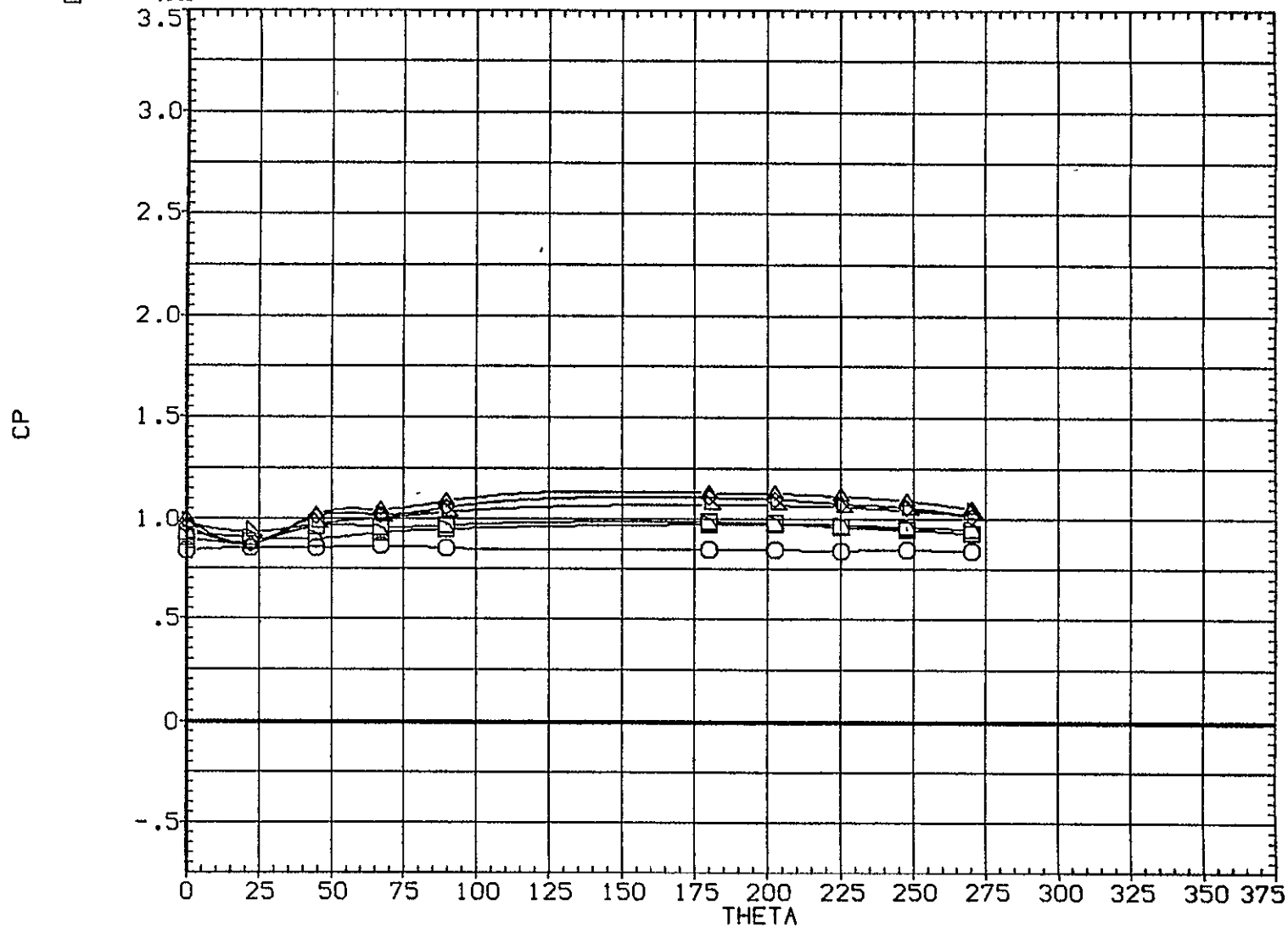
(B1G007)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	.000
○	.016	.960	1.452			
□	.018					
◇	.020					
△	.022					
▽	.025					
▷	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.030	.960	1.452		.000		.000
□	.036						
◇	.039						
△	.041						
▽	.044						
◇	.049						

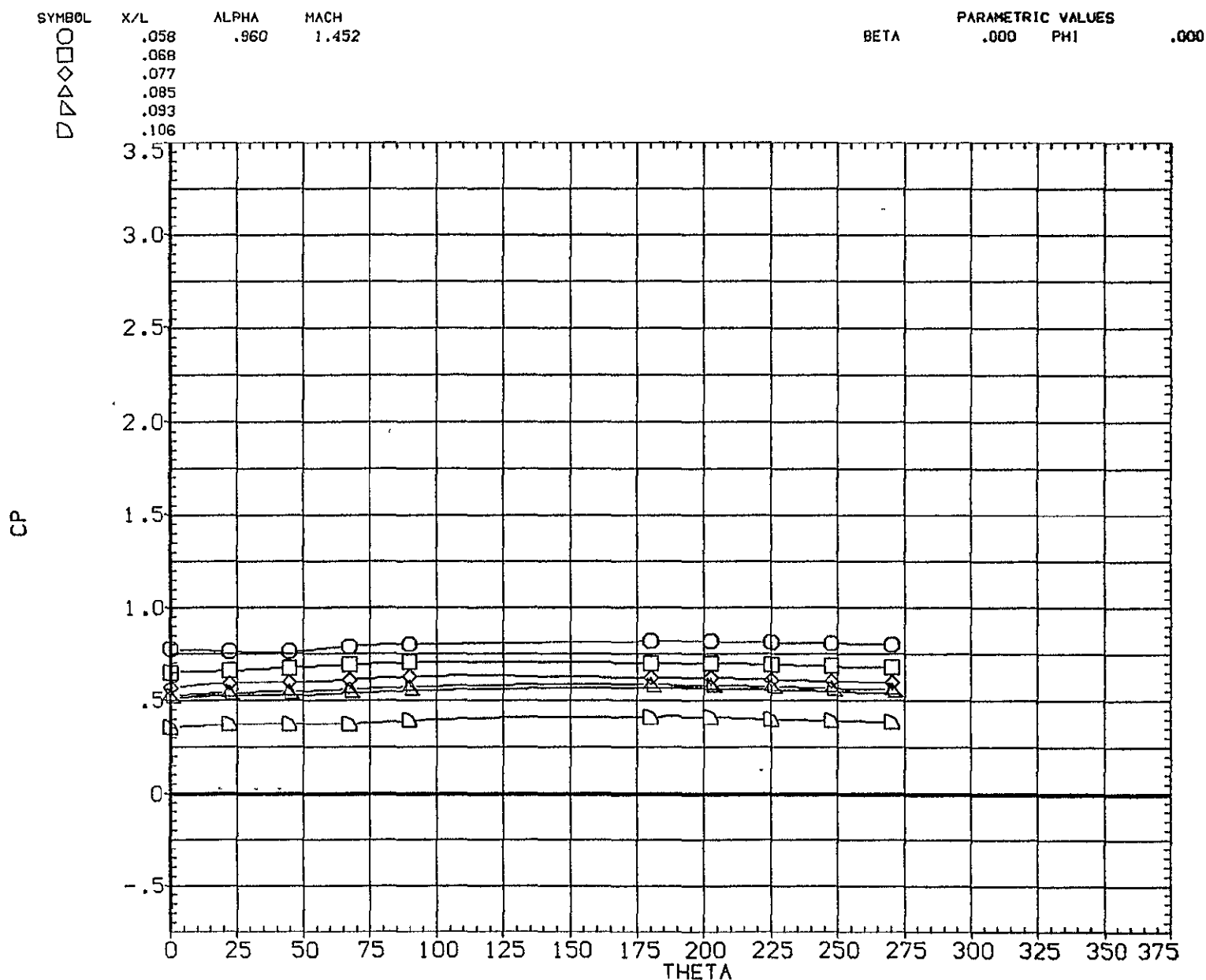


EFFECT OF RADIAL LOCATION ON PRESSURE



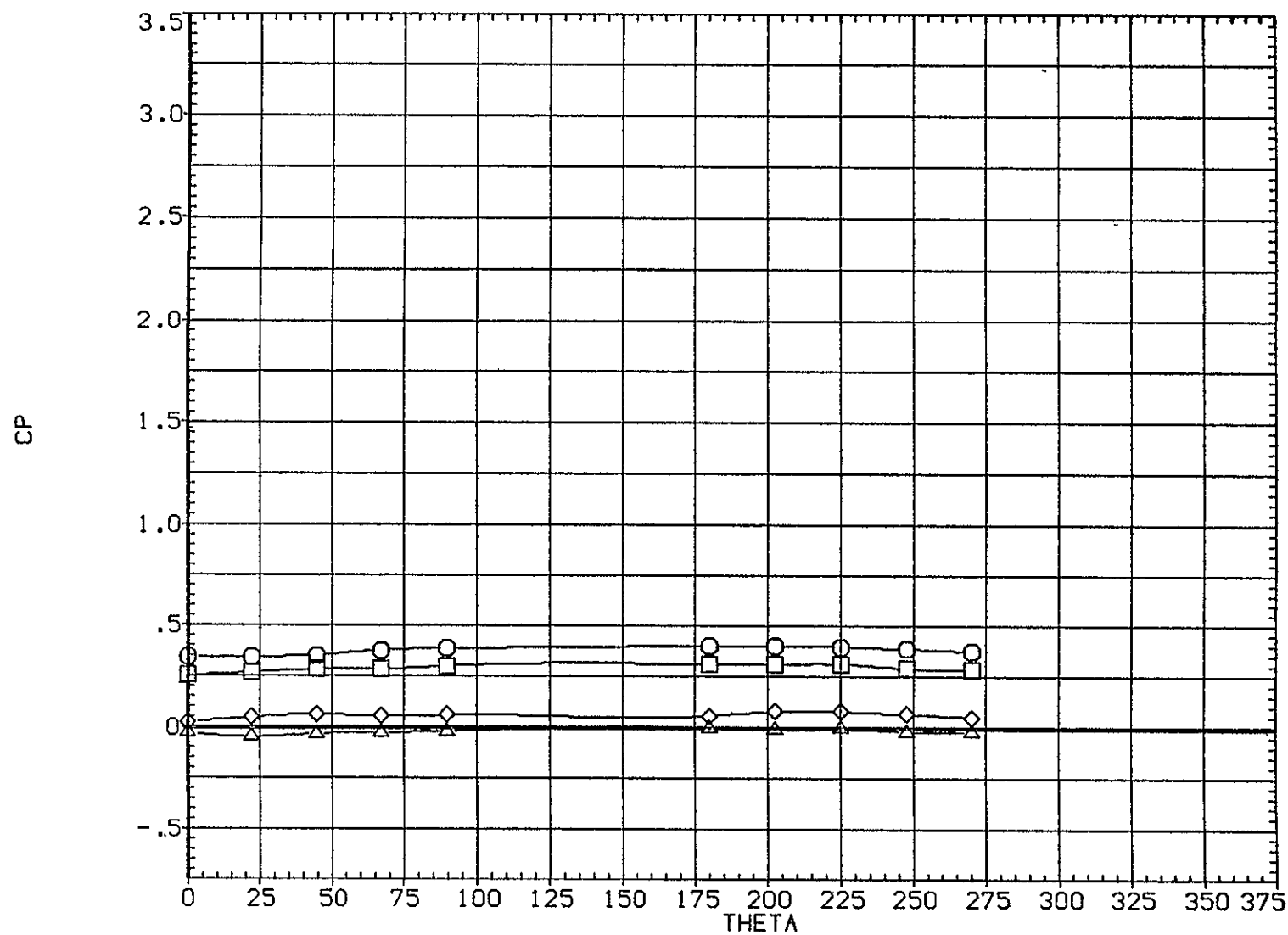
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G007)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	.960	1.452				
□	.131				.000		
◇	.167						
△	.185						.000

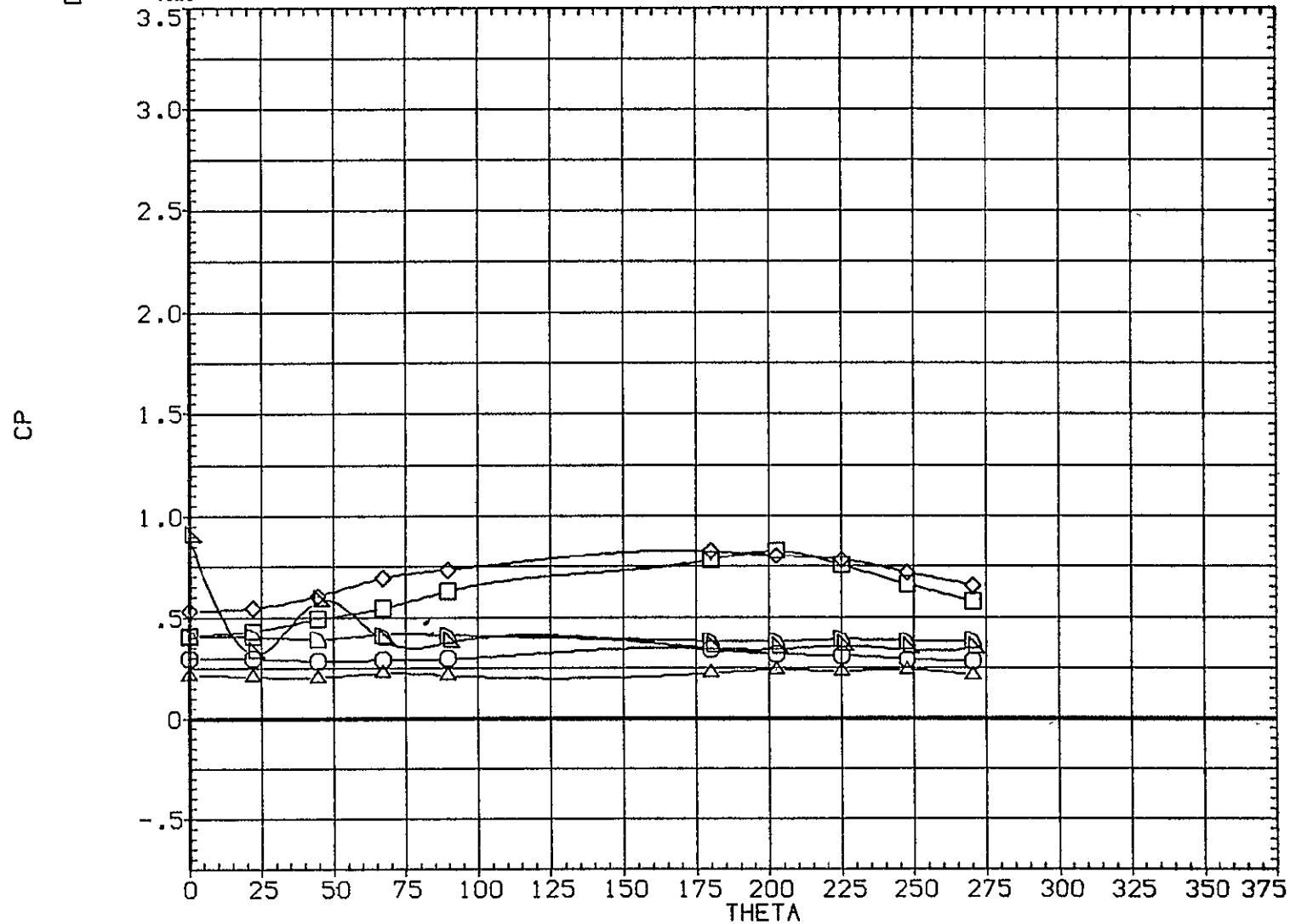


EFFECT OF RADIAL LOCATION ON PRESSURE

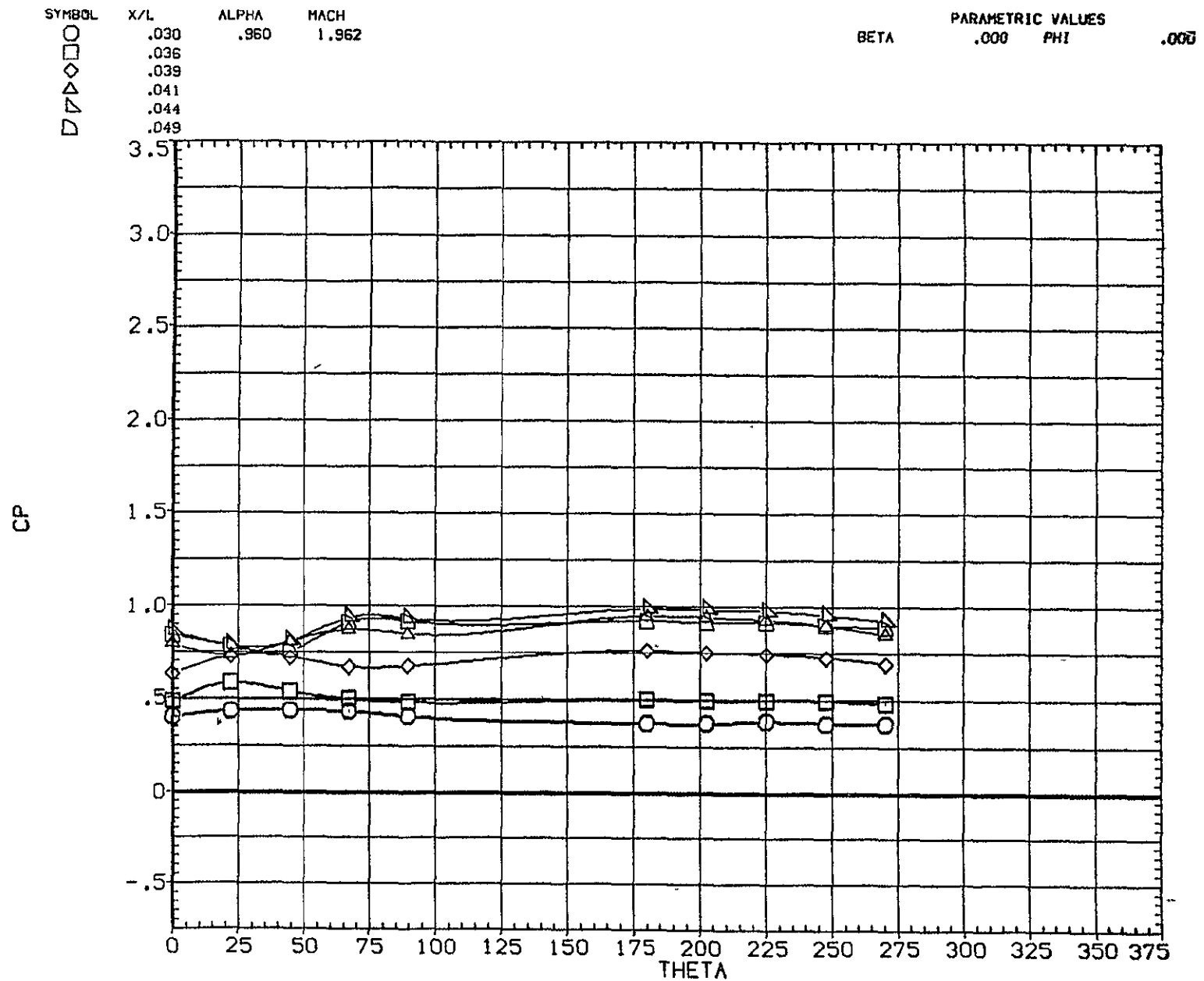
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16007)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	.960	1.962			
□	.018					
◇	.020					
△	.022					
▽	.025					
◇	.028					



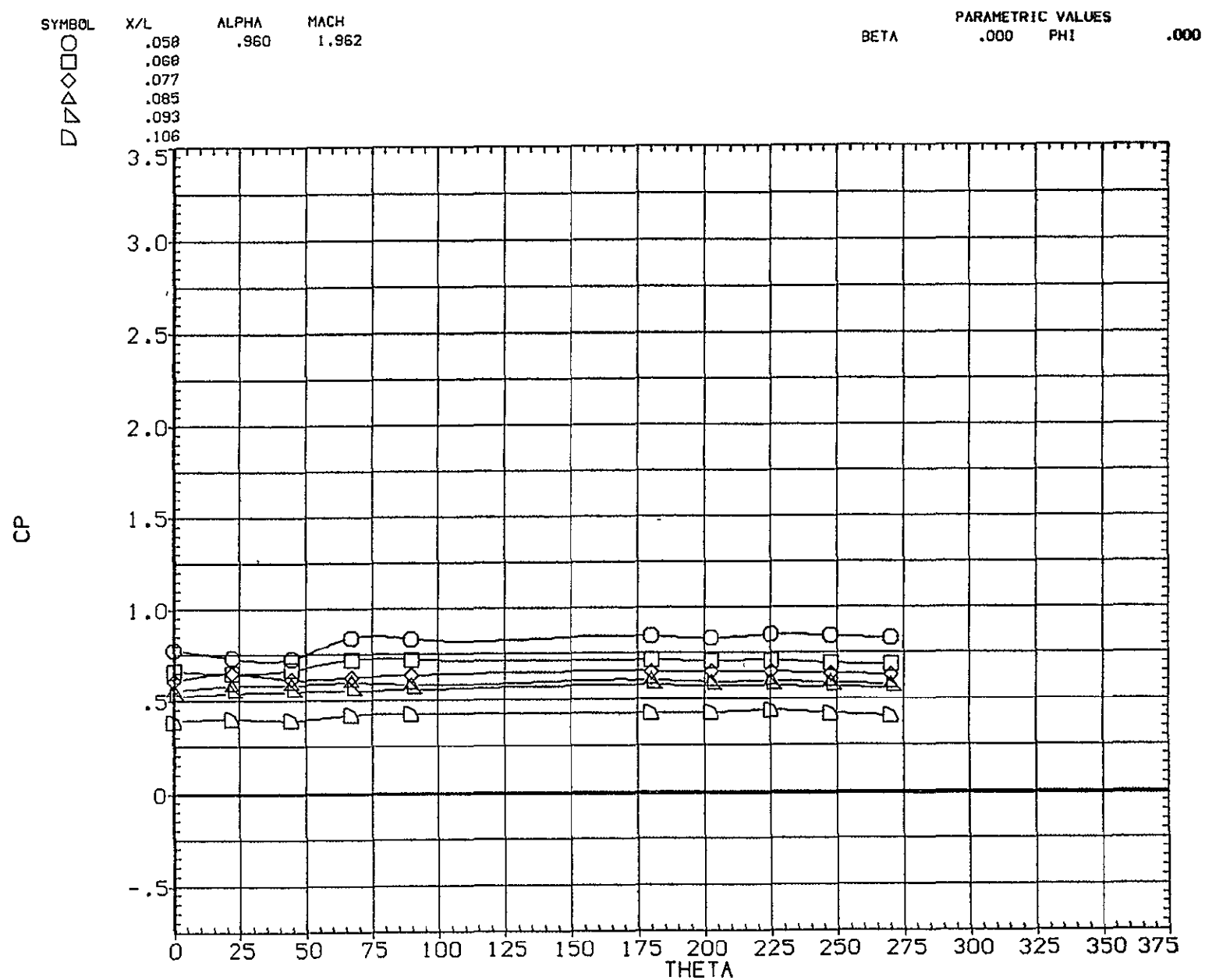
EFFECT OF RADIAL LOCATION ON PRESSURE



EFFECT OF RADIAL LOCATION ON PRESSURE

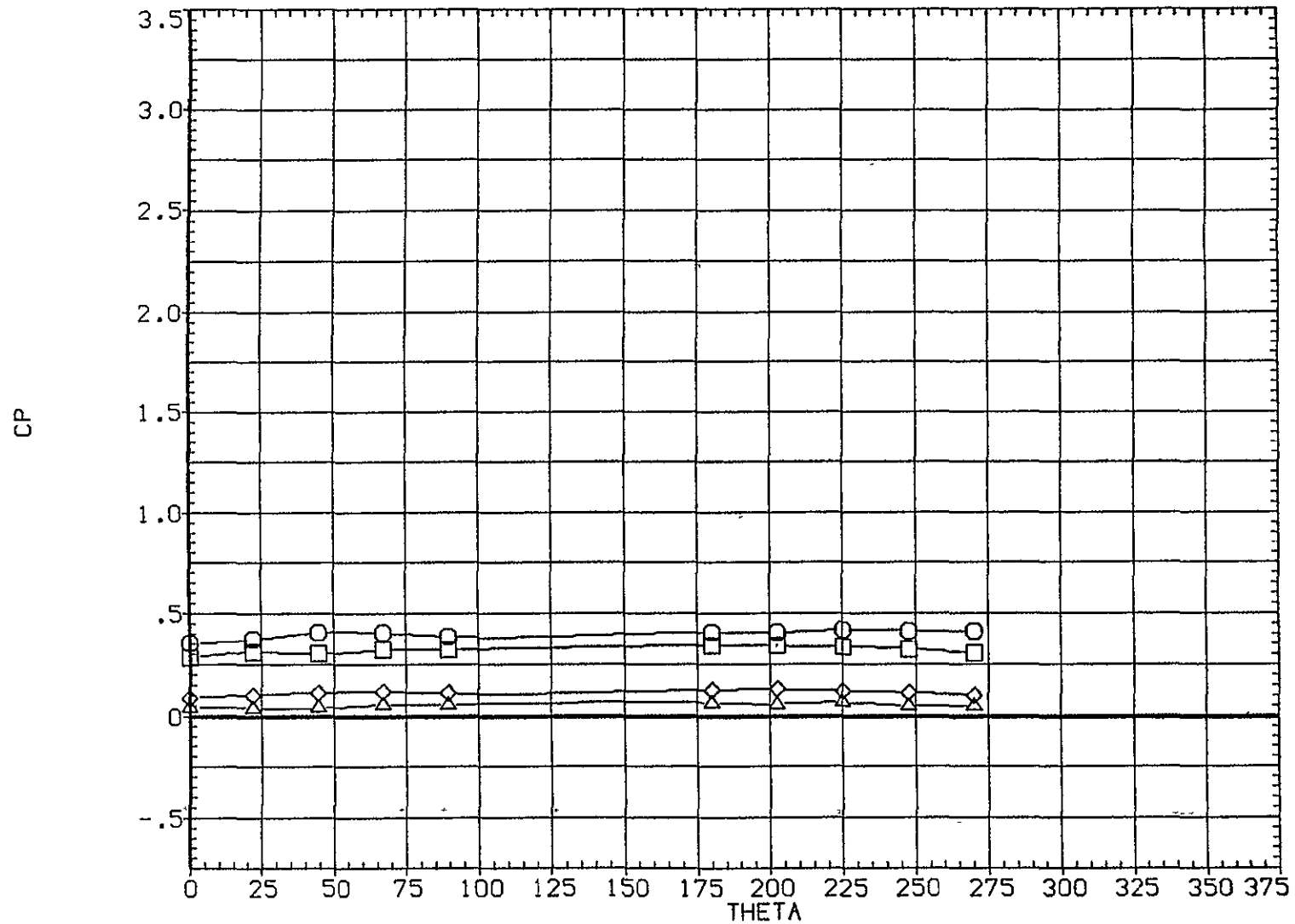
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G007)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	.960	1.962		.000		.000
□	.131						
◇	.167						
△	.185						

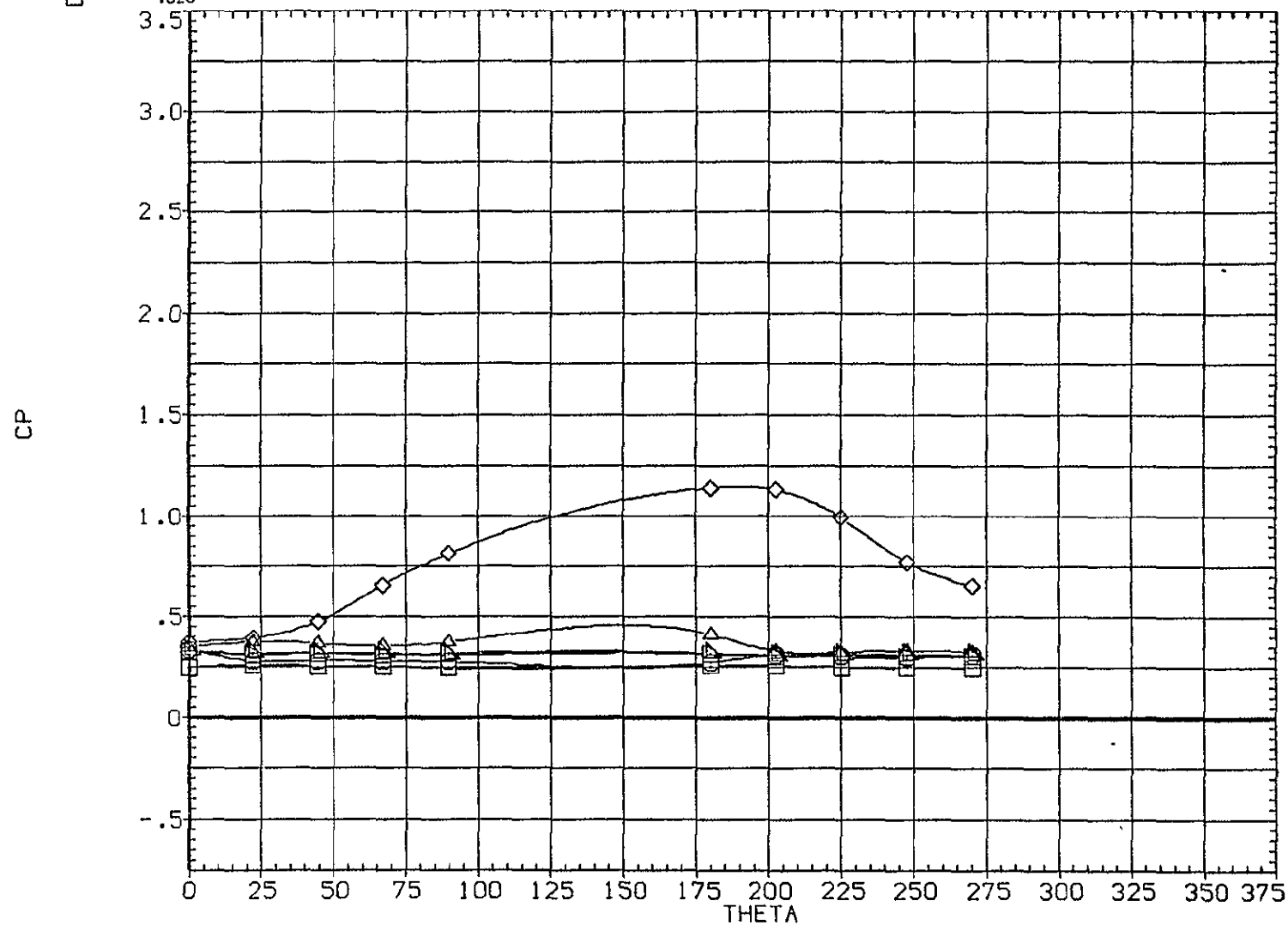


EFFECT OF RADIAL LOCATION ON PRESSURE

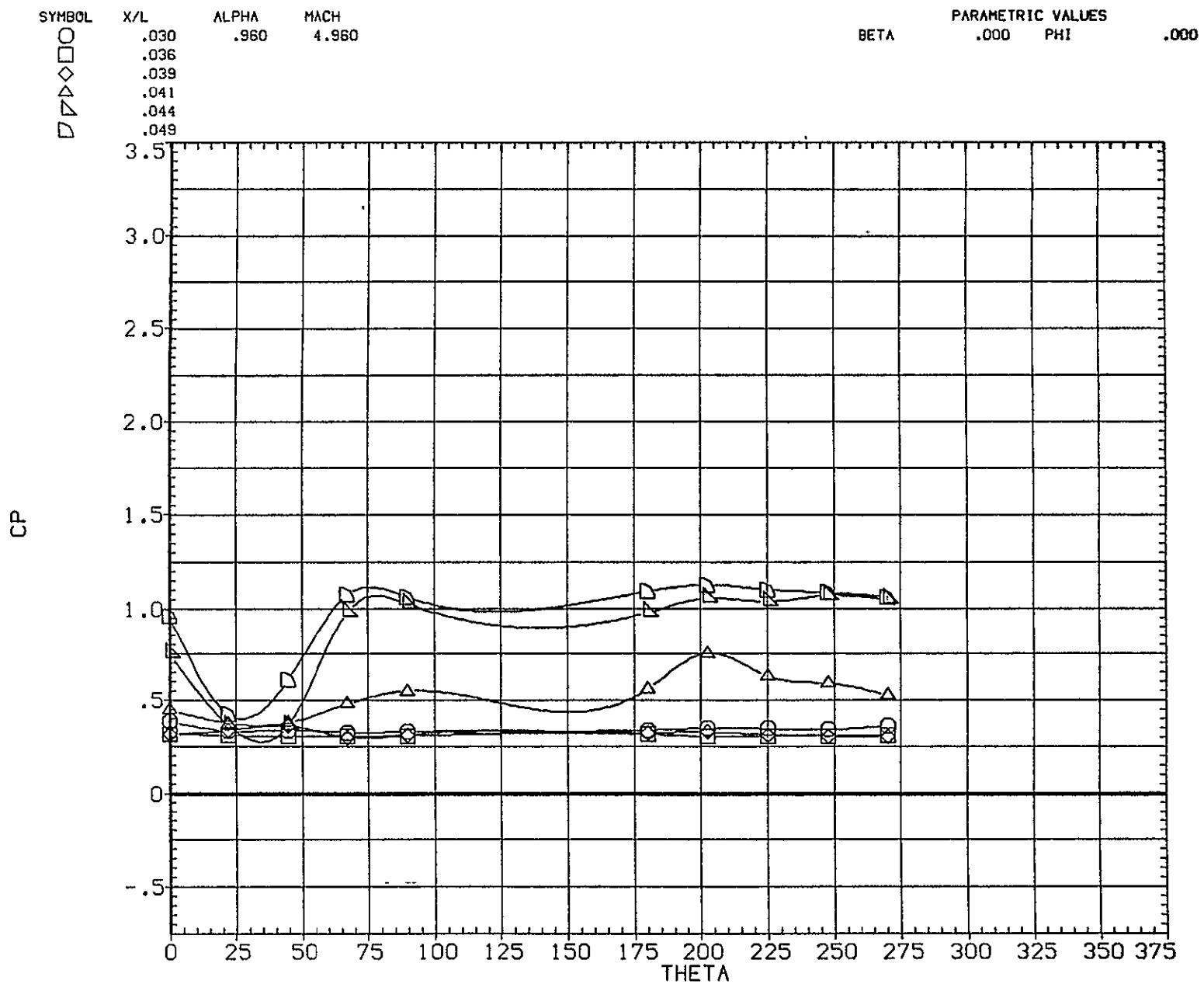
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G007)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	.960	4.960			
□	.018					
△	.020					
▽	.022					
◇	.025					
◇	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

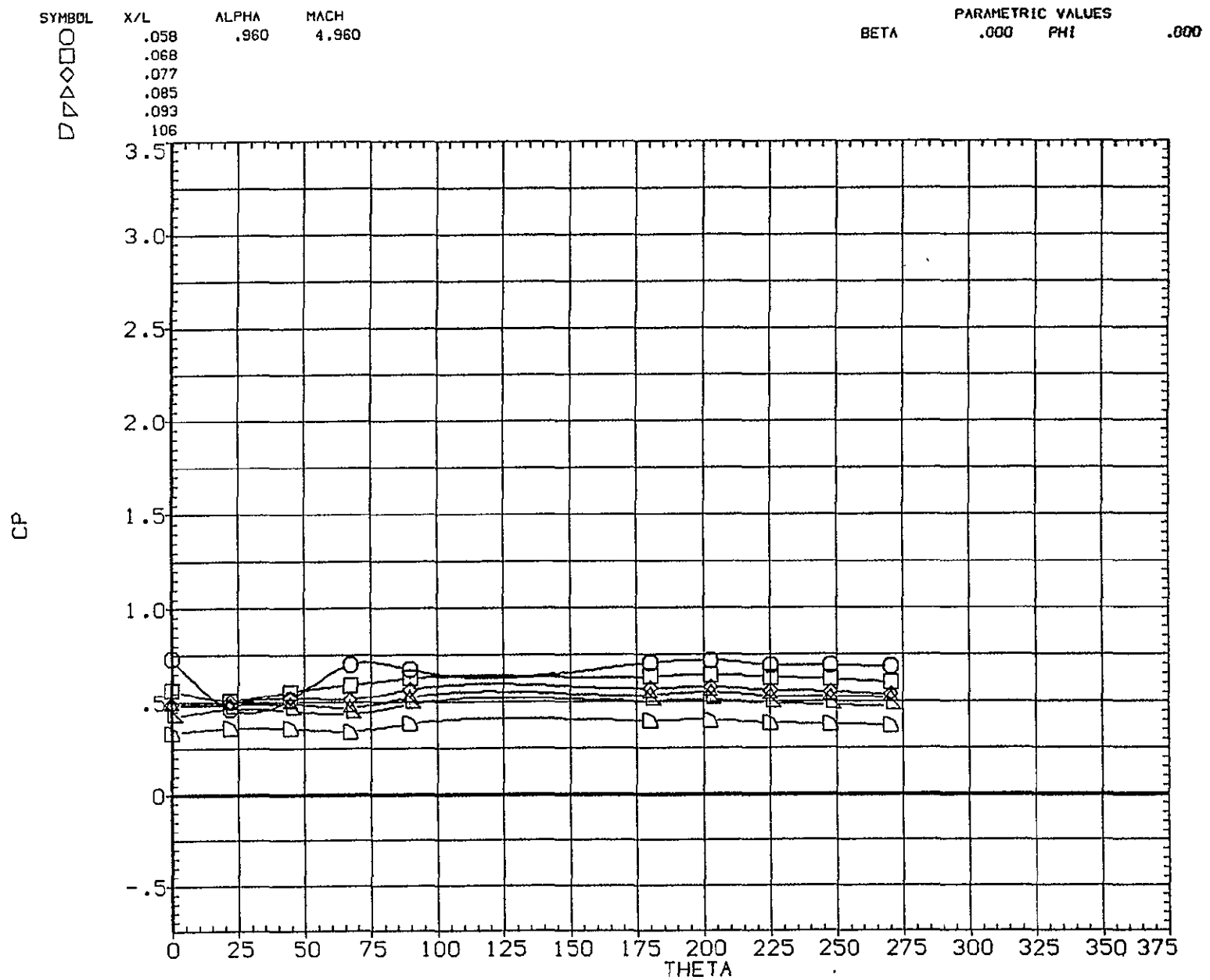


EFFECT OF RADIAL LOCATION ON PRESSURE



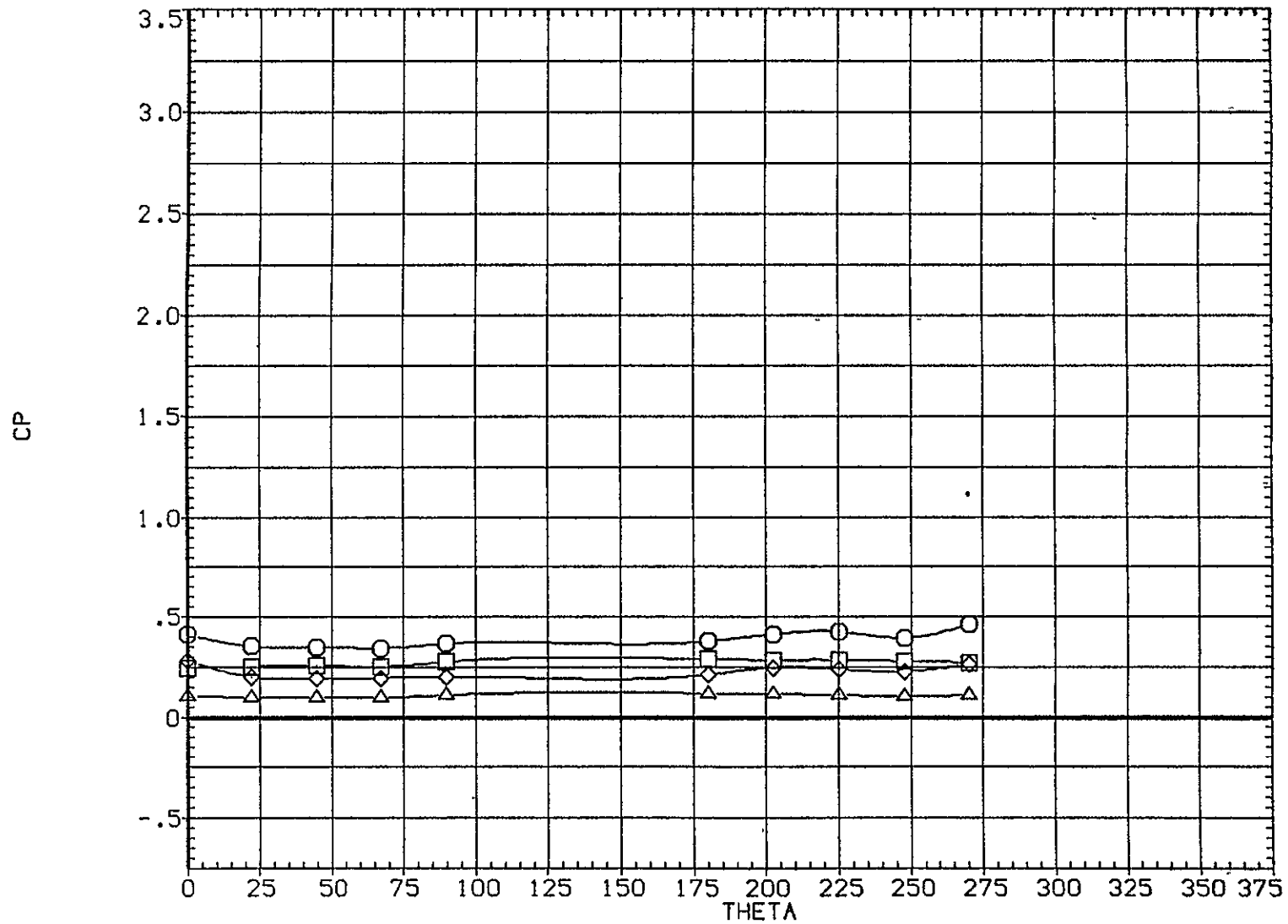
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G007)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	.960	4.960			
□	.131					
◇	.167					
△	.185					

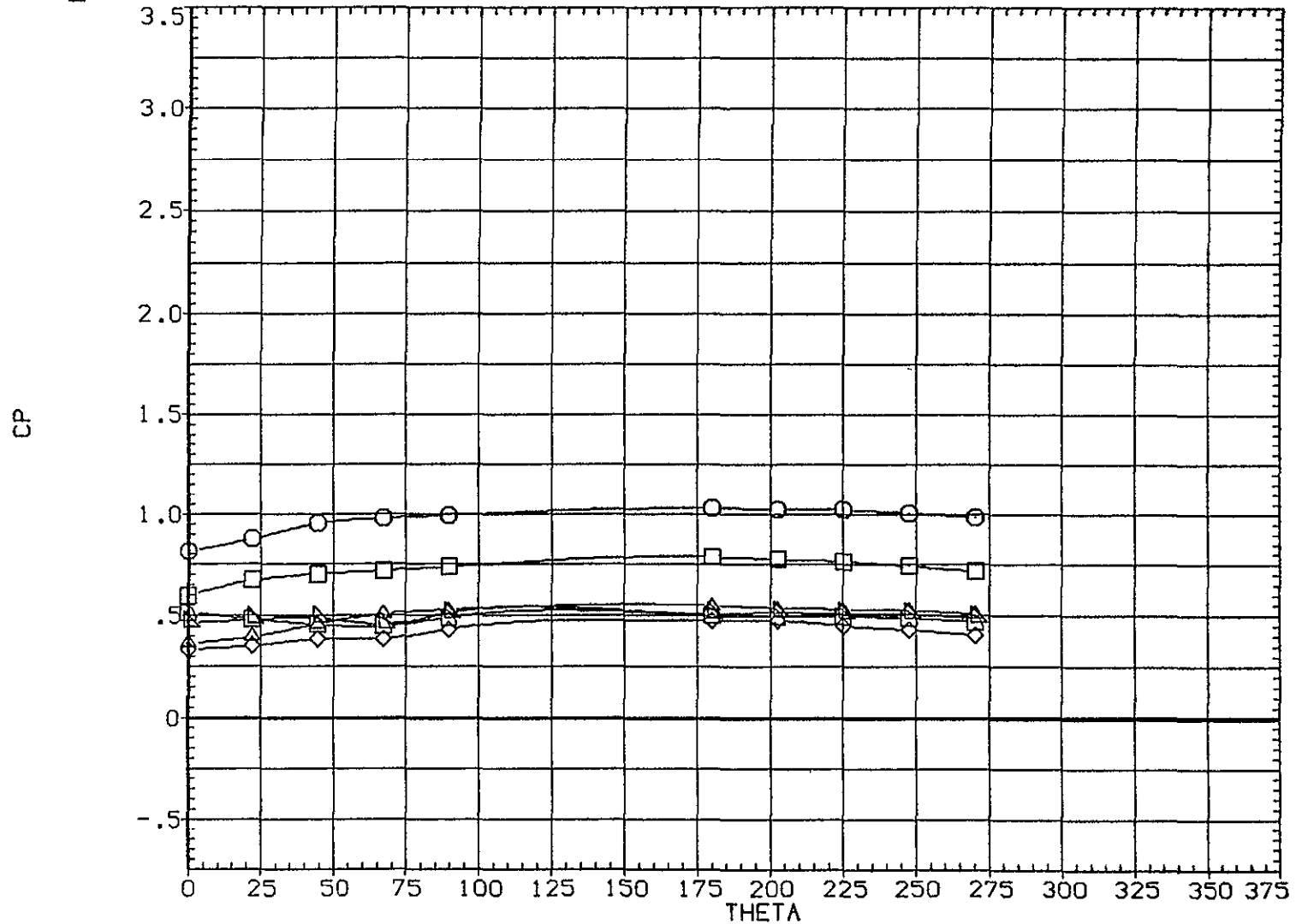


EFFECT OF RADIAL LOCATION ON PRESSURE

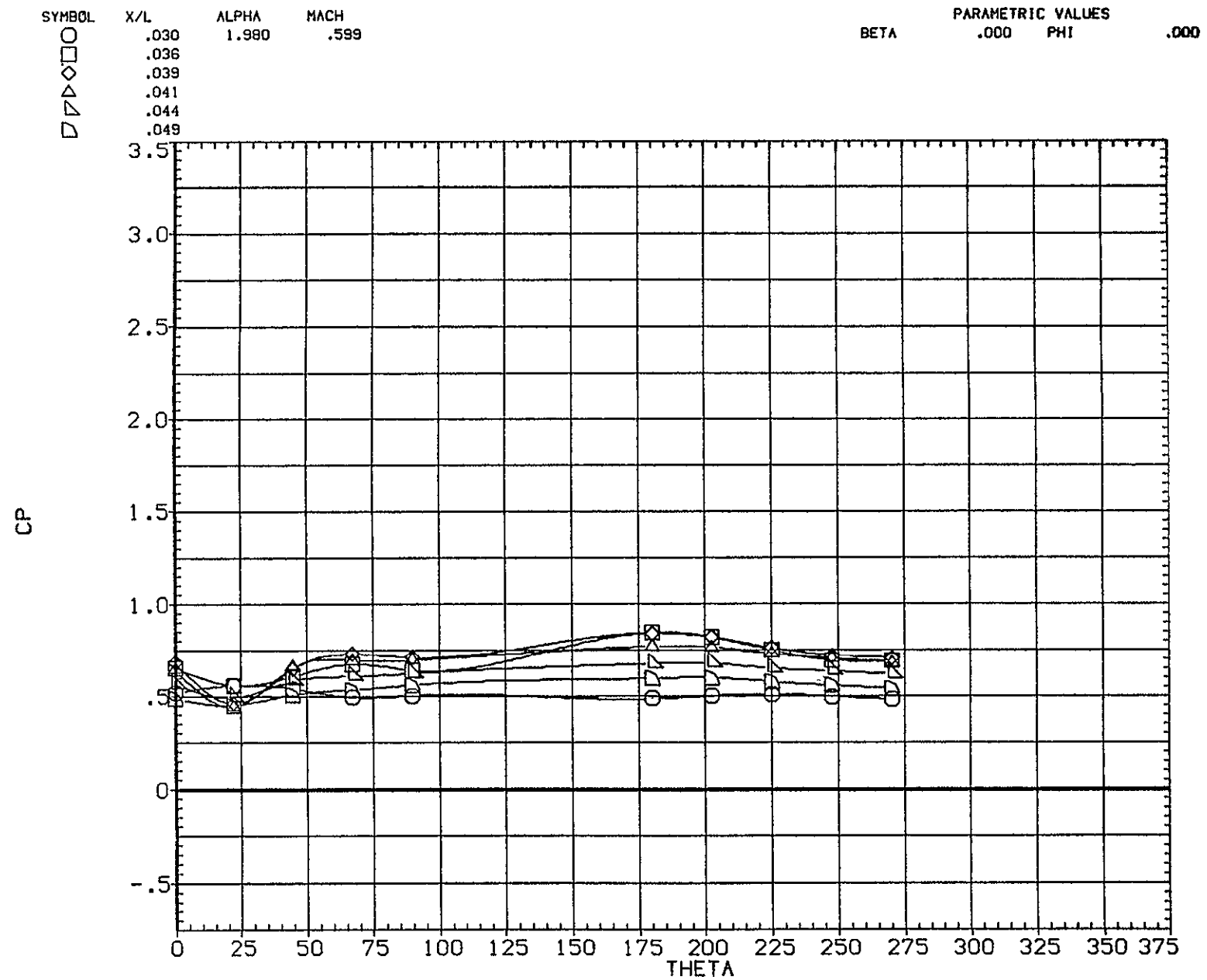
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G008)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	1.980	.599			
□	.018					
◇	.020					
△	.022					
▽	.025					
◇	.028					



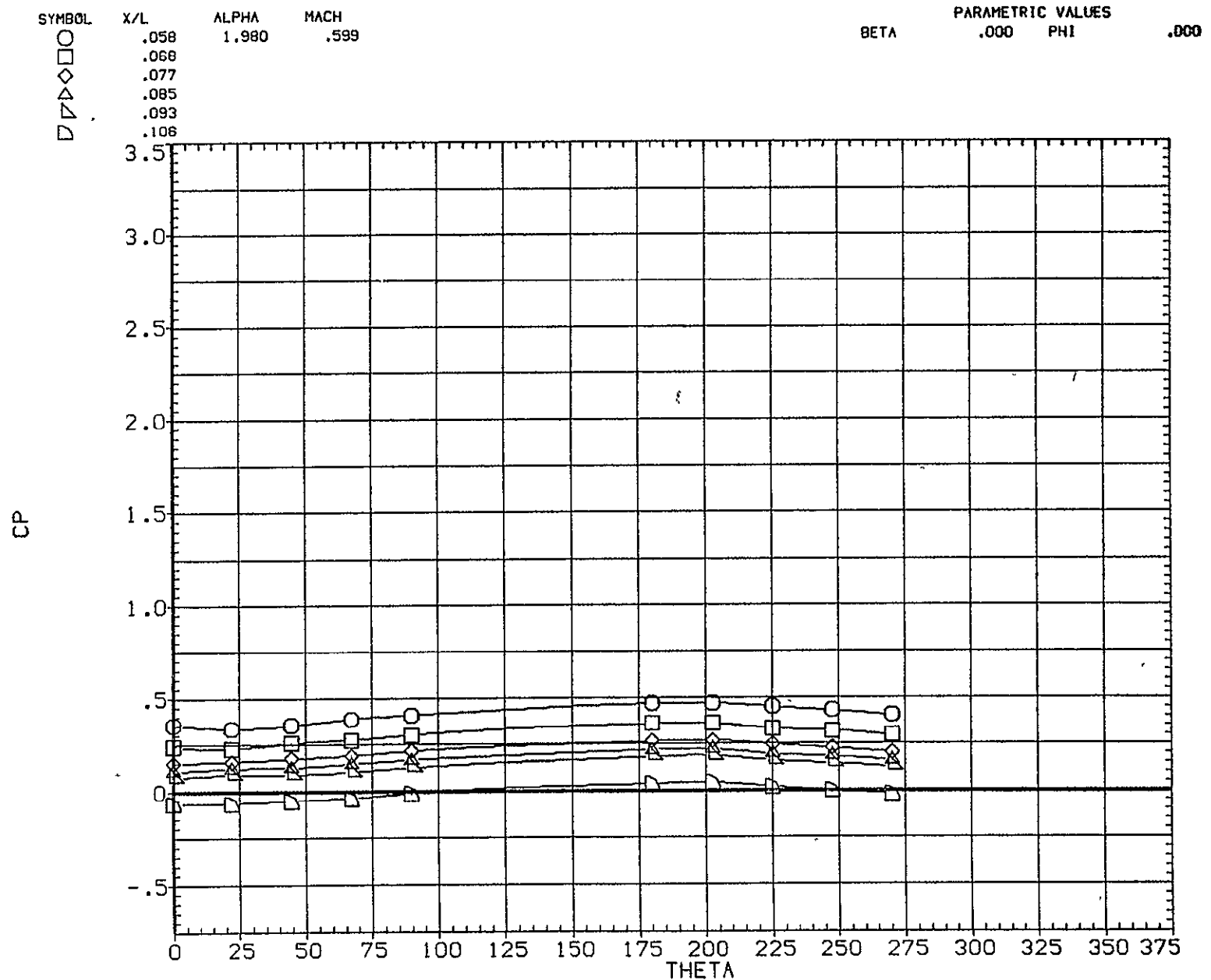
EFFECT OF RADIAL LOCATION ON PRESSURE



EFFECT OF RADIAL LOCATION ON PRESSURE

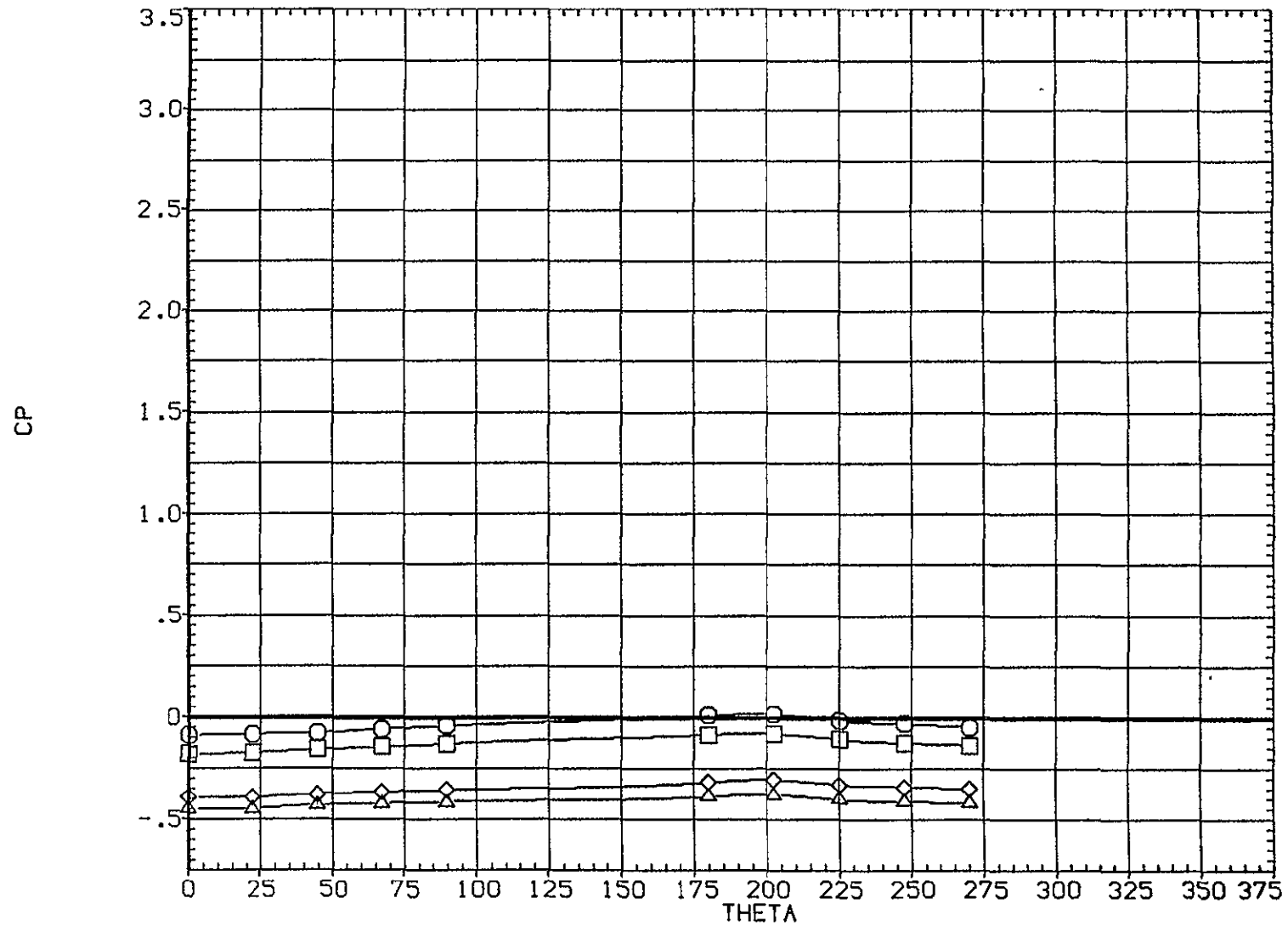
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G008)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	1.980	.599			
□	.131					
◇	.167					
△	.185					

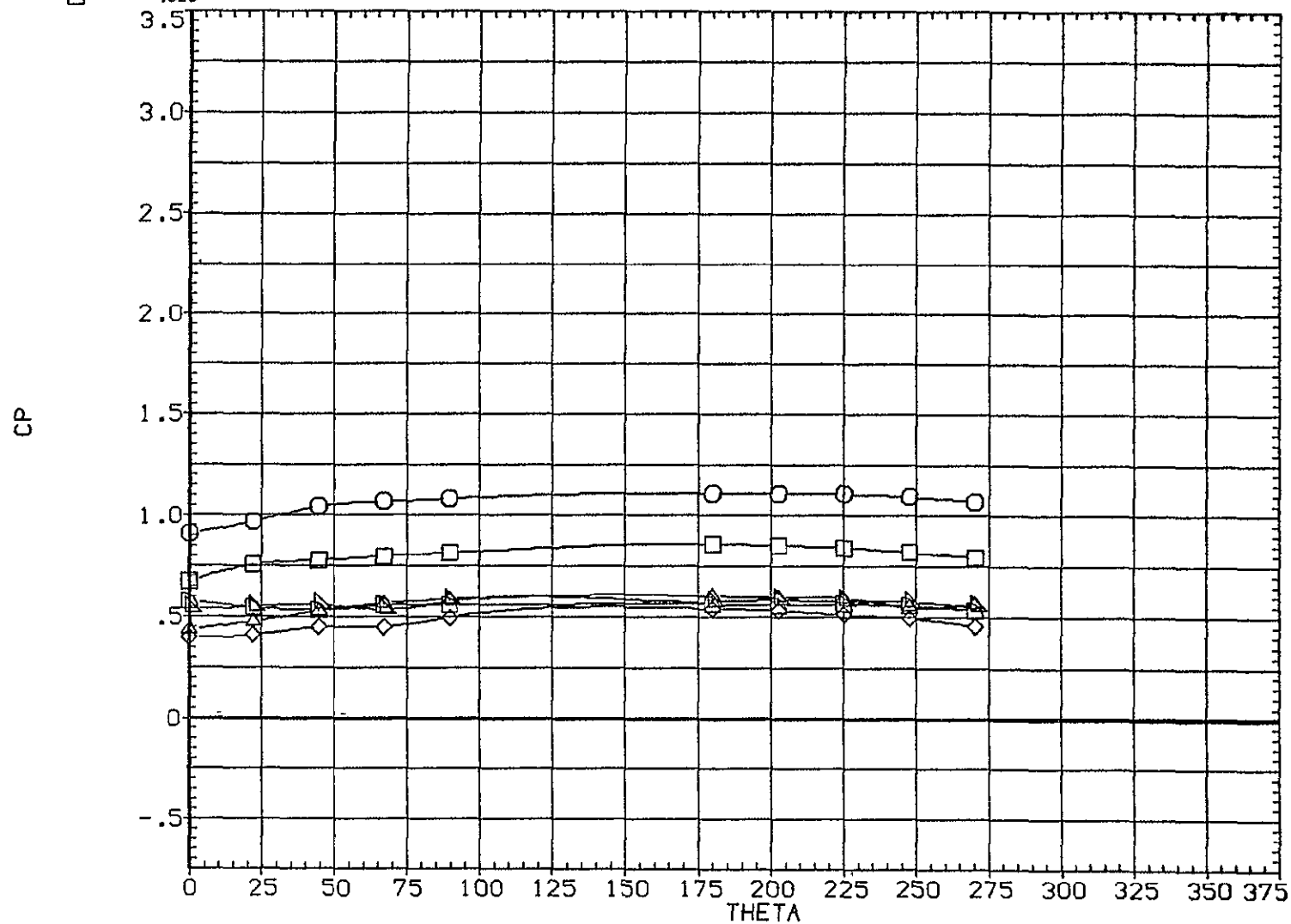


EFFECT OF RADIAL LOCATION ON PRESSURE

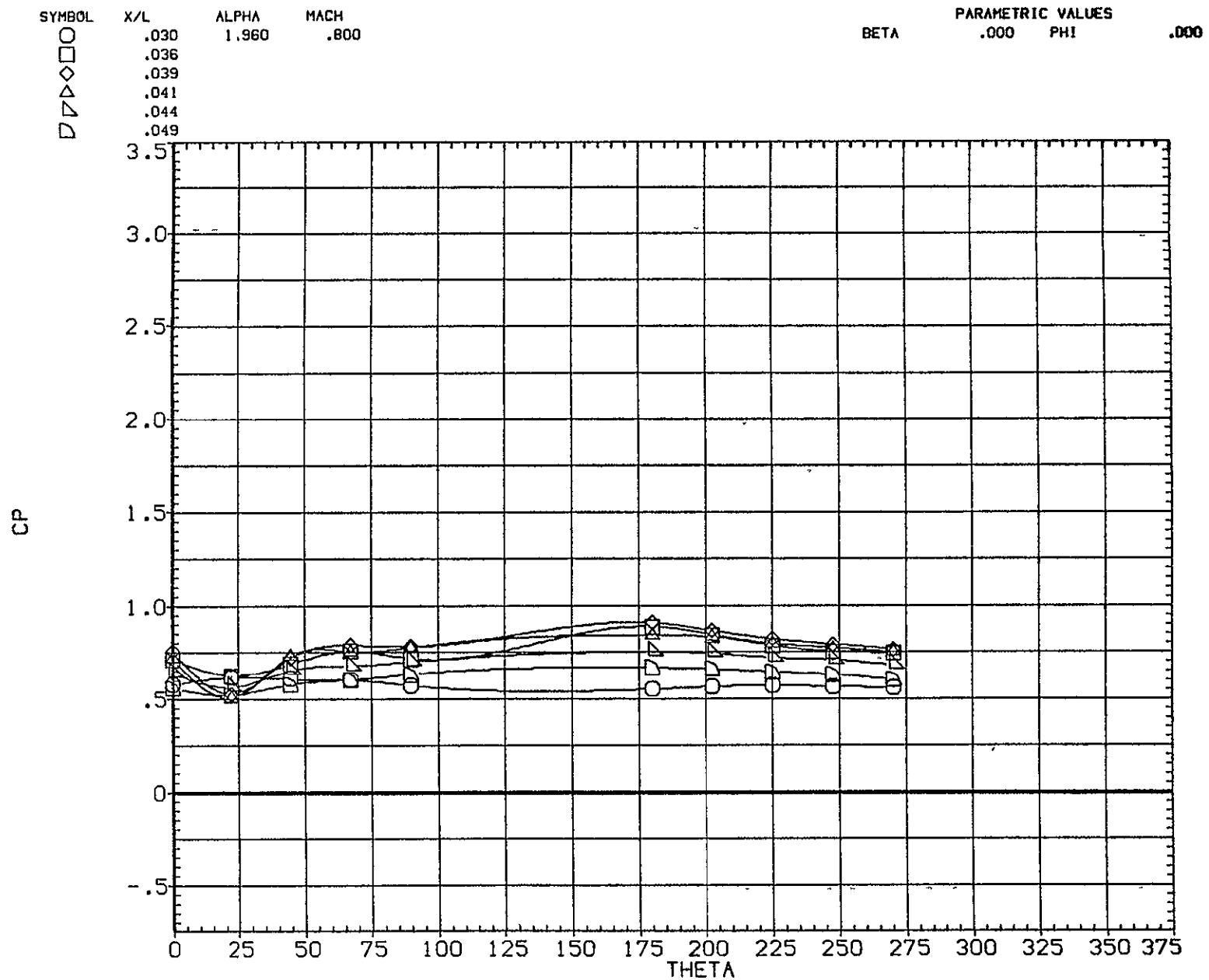
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G008)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	1.960	.800	.000		.000
□	.018					
◇	.020					
△	.022					
▽	.025					
▷	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

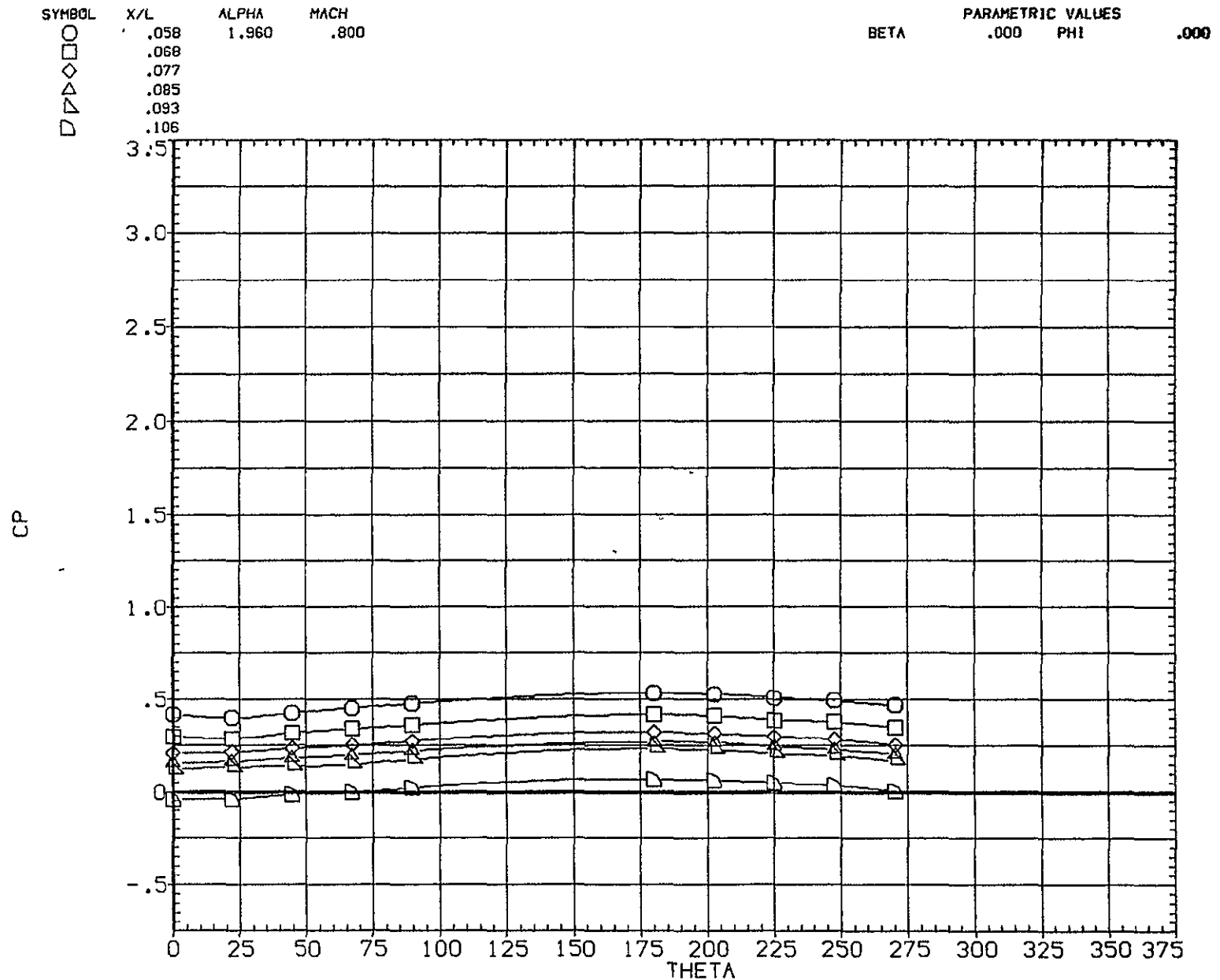


EFFECT OF RADIAL LOCATION ON PRESSURE



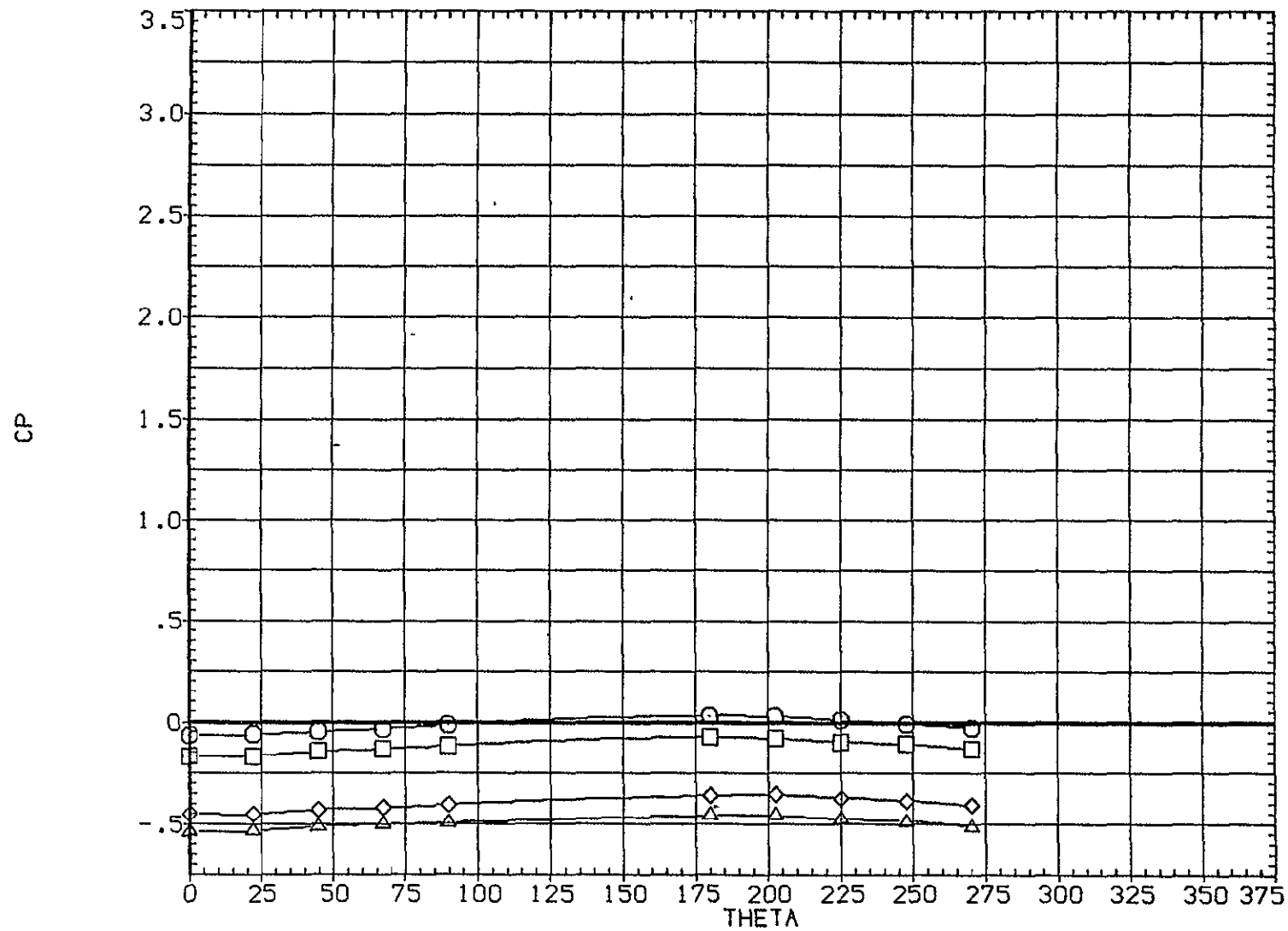
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16008)



EFFECT OF RADIAL LOCATION ON PRESSURE

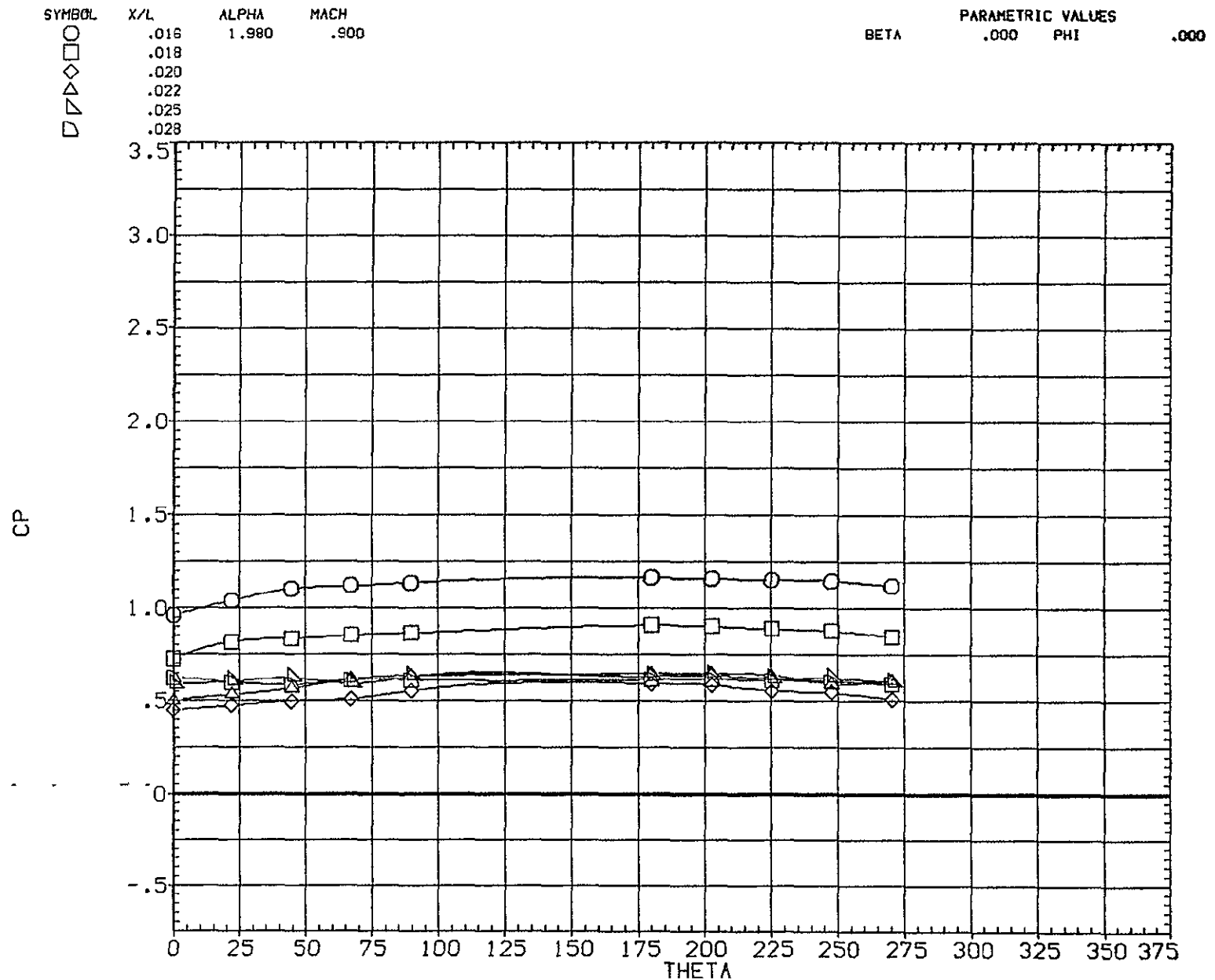
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	1.960	.800			
□	.131					
◇	.167					
△	.185					



EFFECT OF RADIAL LOCATION ON PRESSURE

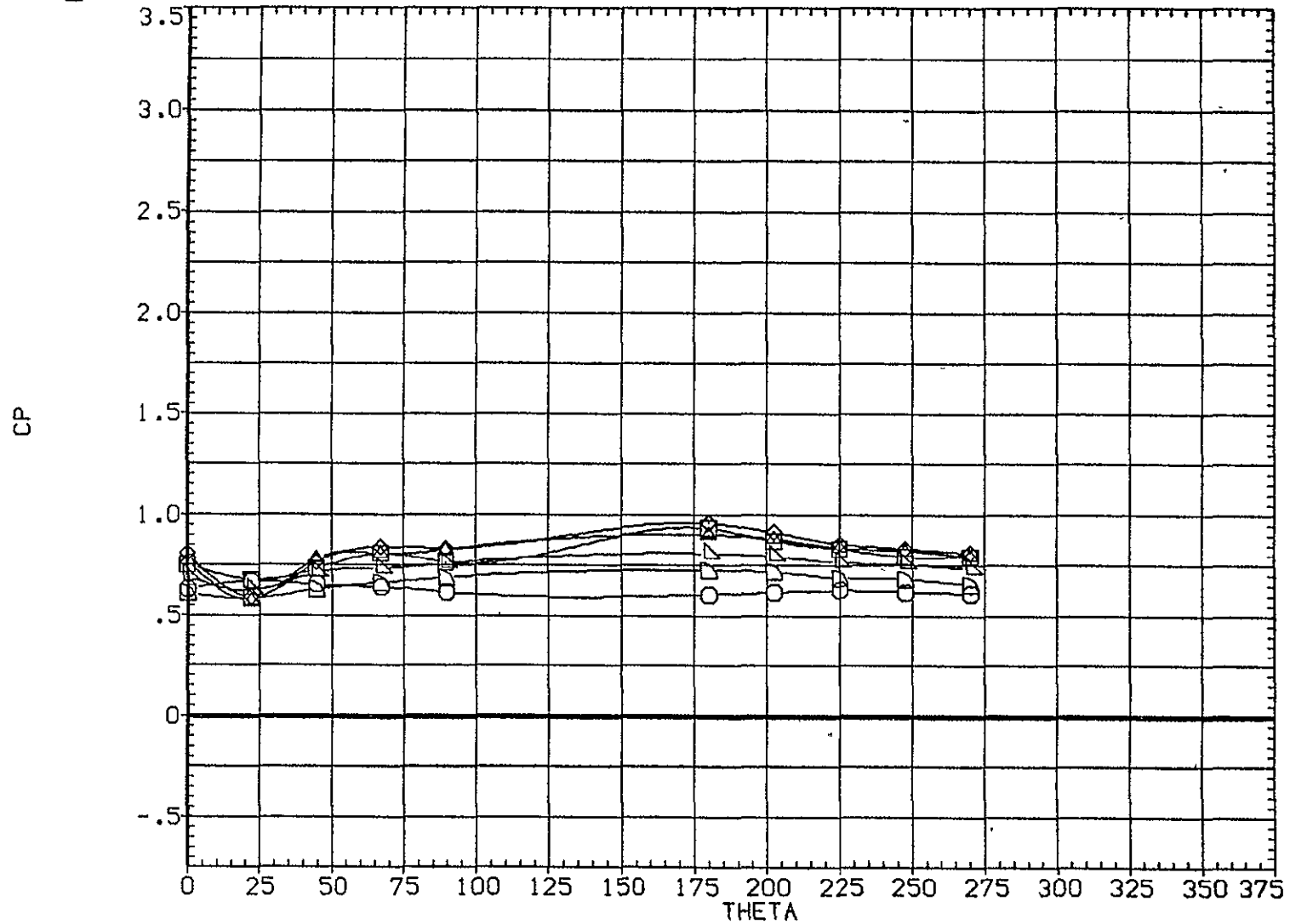
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16008)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	1.980	.900			
□	.036					
◇	.039					
△	.041					
▽	.044					
◁	.049					

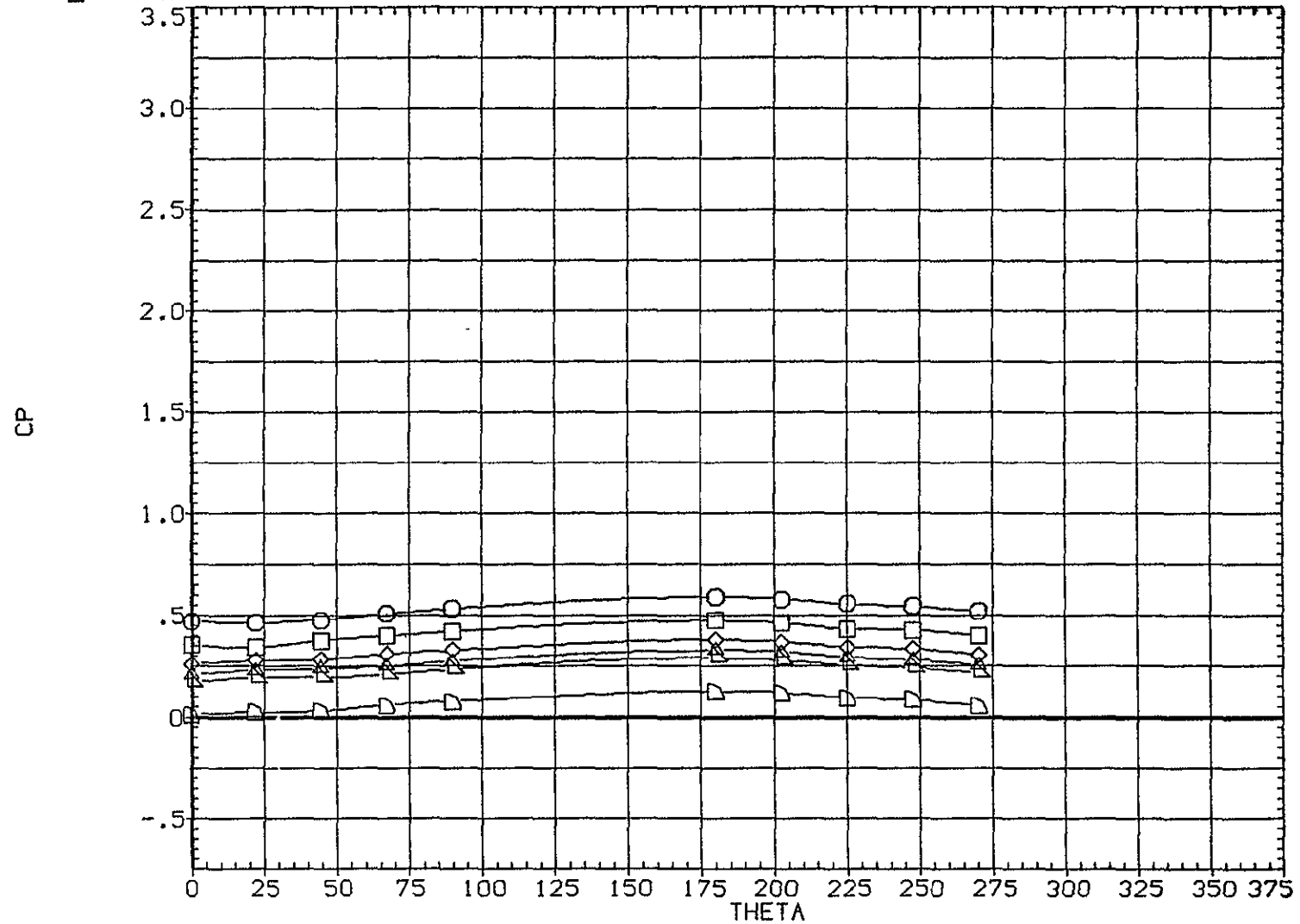


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

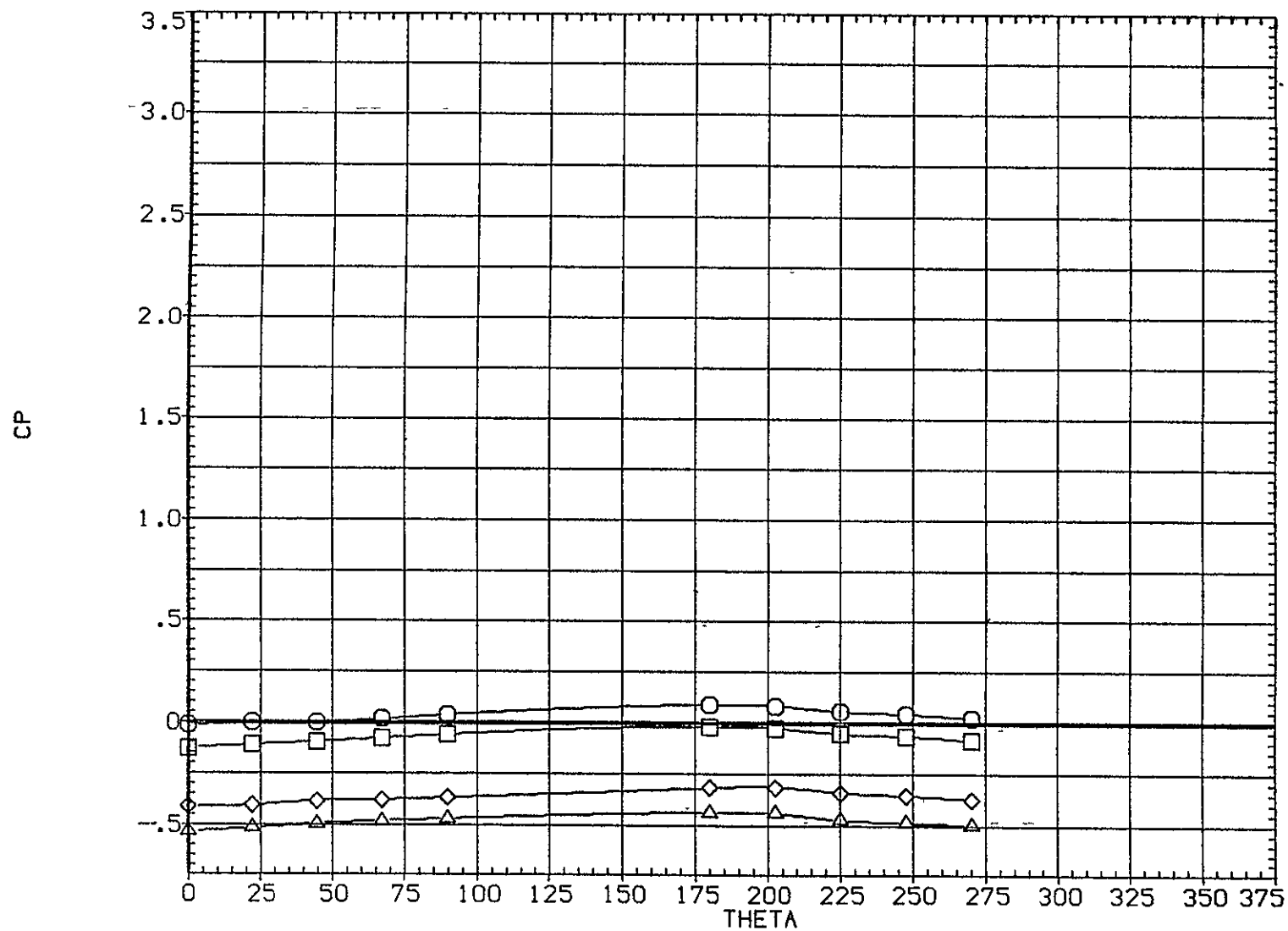
(B1G008)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	1.990	.900			
□	.068					
◇	.077					
△	.085					
▽	.093					
▷	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	
○	.118	1.980	.900		.000	PHI .000
□	.131					
◇	.167					
△	.185					

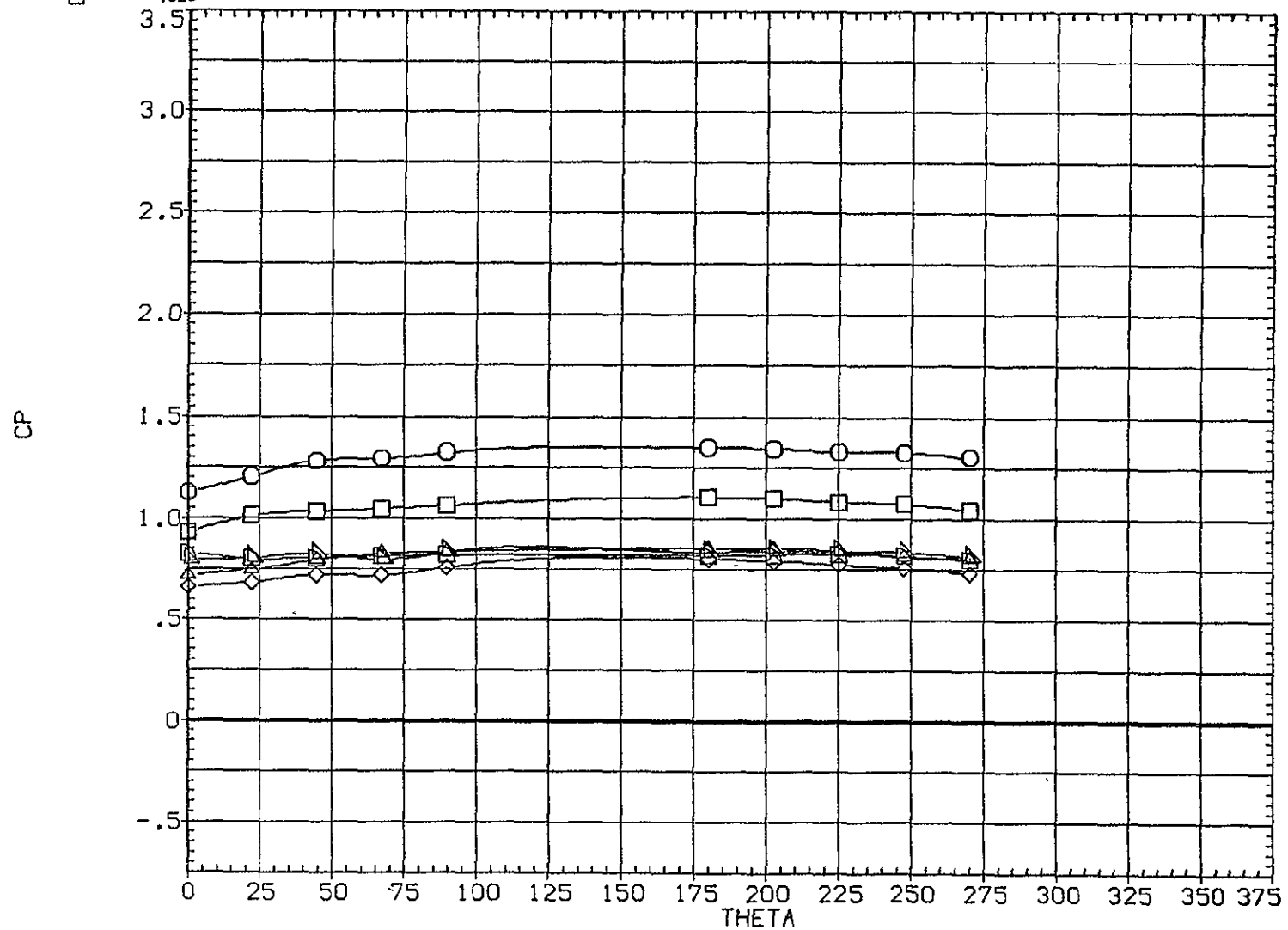


EFFECT OF RADIAL LOCATION ON PRESSURE

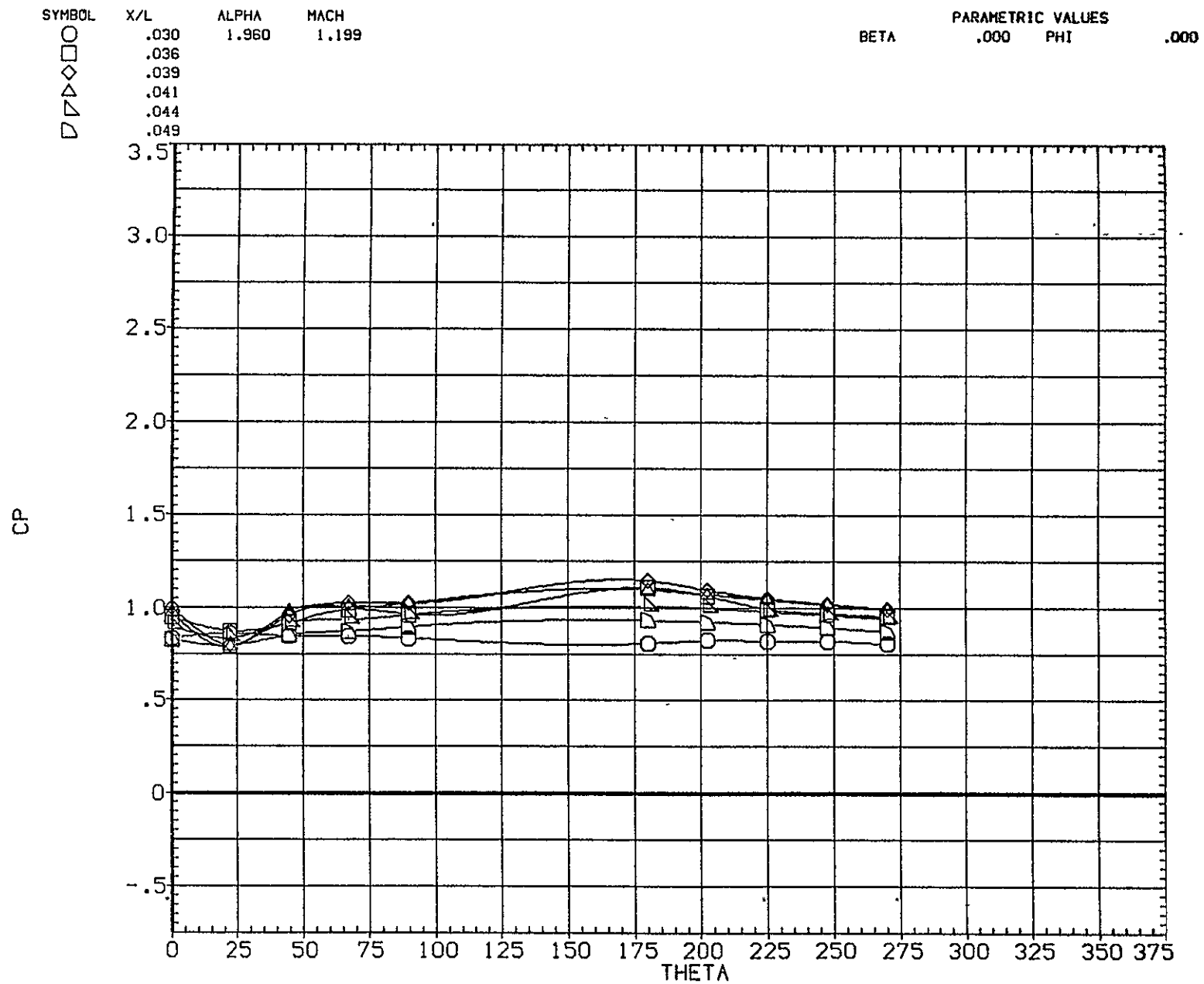
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G008)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES			
				BETA	.000	PHI	.000



EFFECT OF RADIAL LOCATION ON PRESSURE



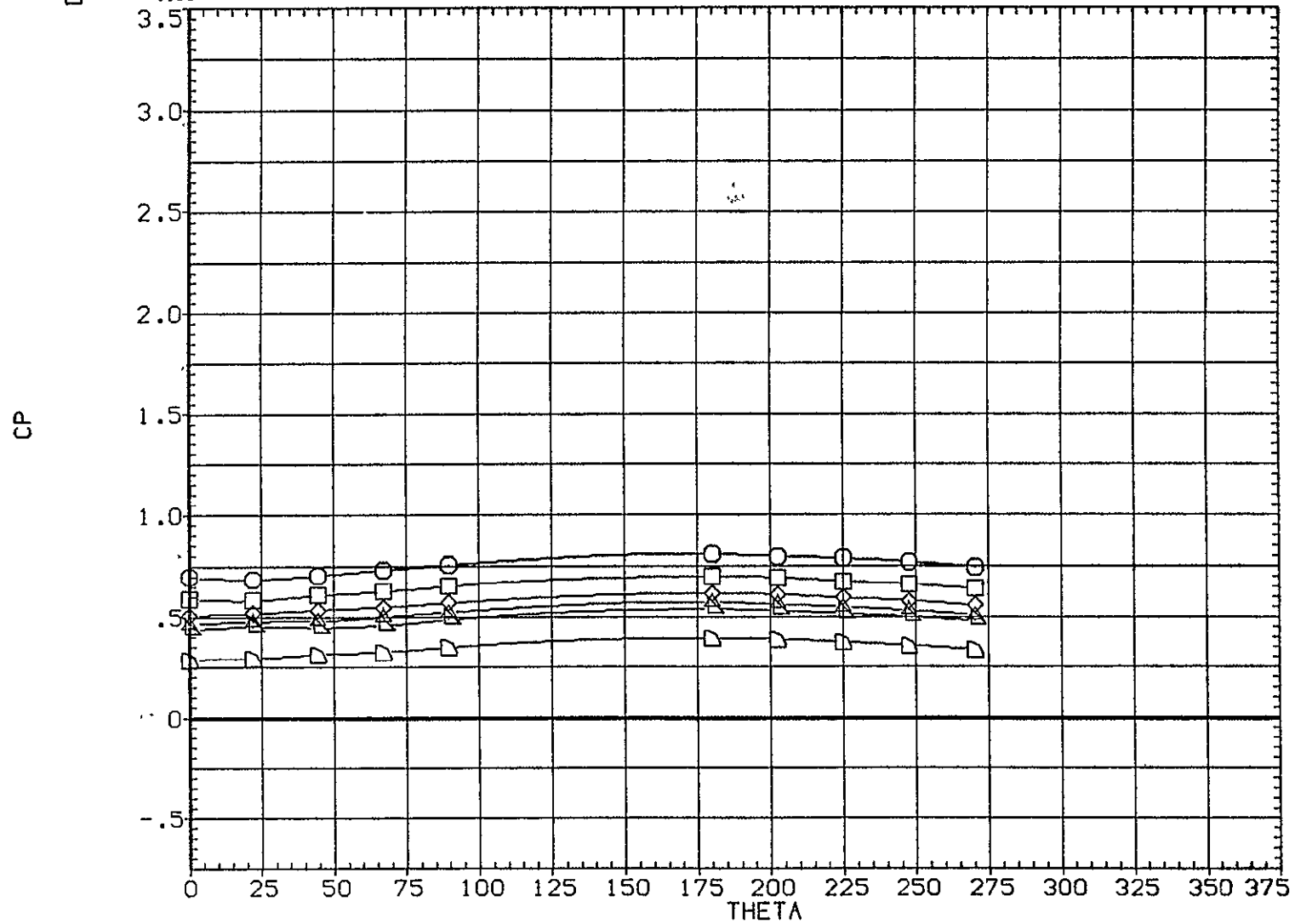
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

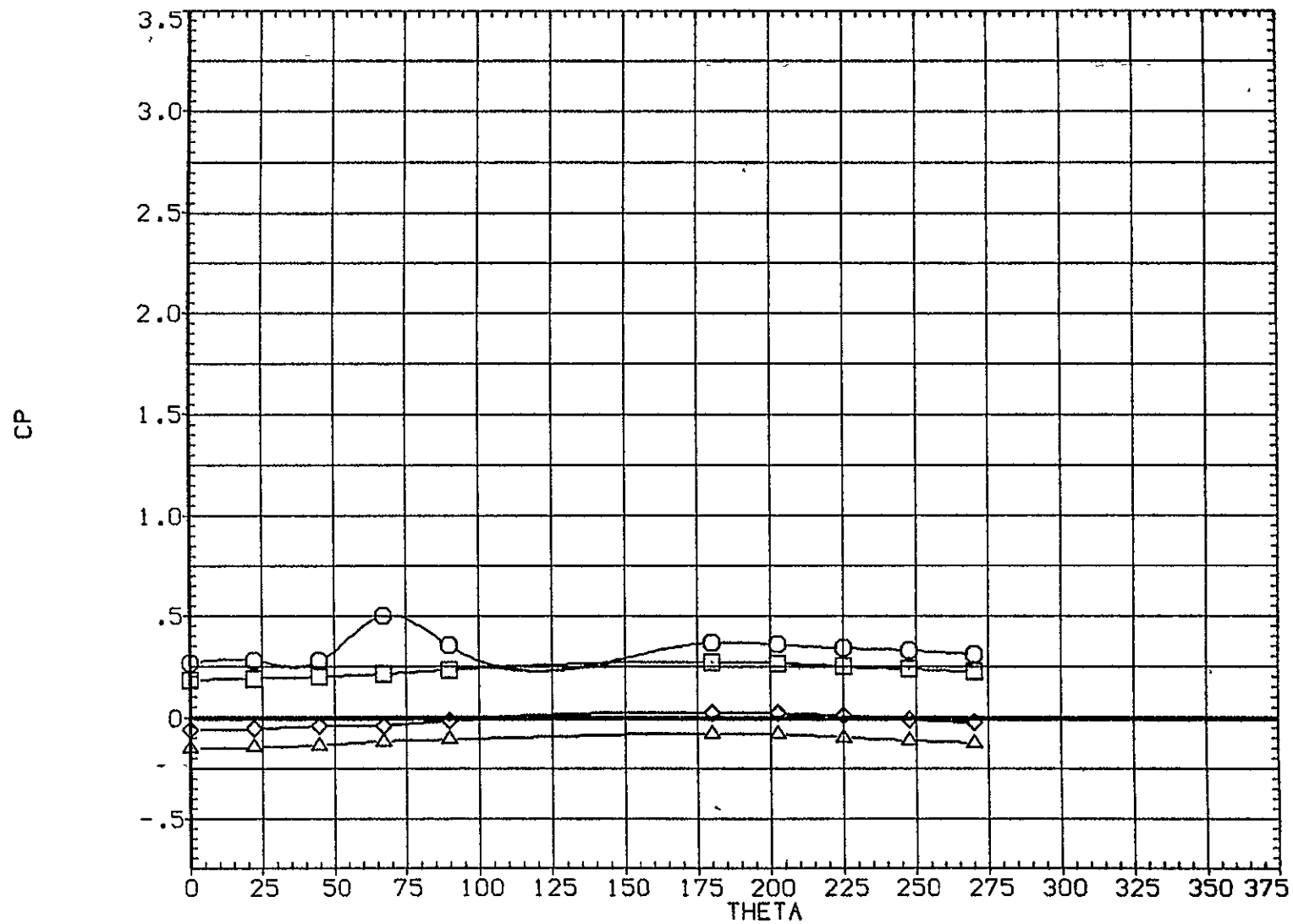
(B1G008)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	1.960	1.199			
□	.068					
◇	.077					
△	.085					
▽	.093					
▷	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

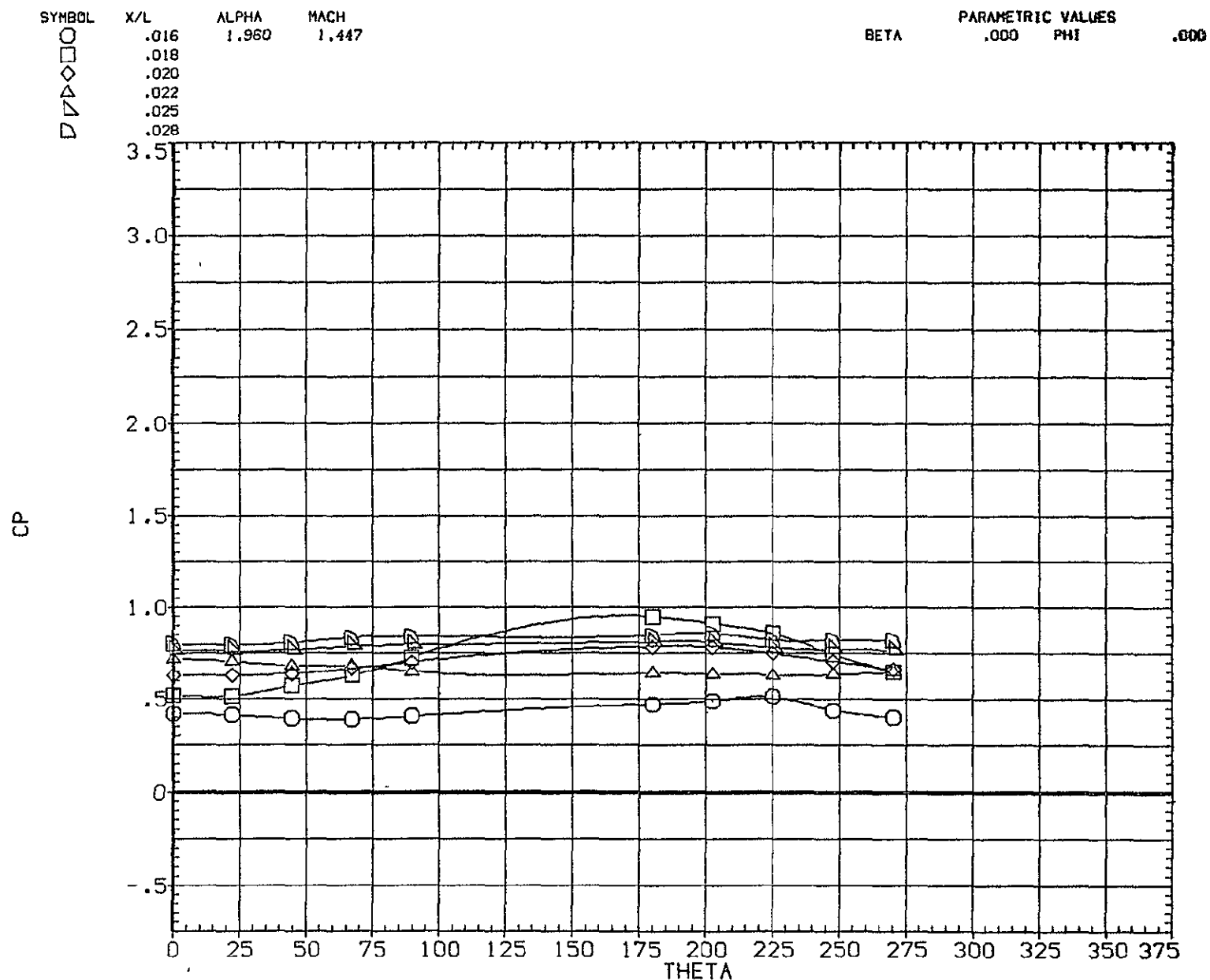
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	1.960	1.199			
□	.131					
◇	.167					
△	.185					



EFFECT OF RADIAL LOCATION ON PRESSURE

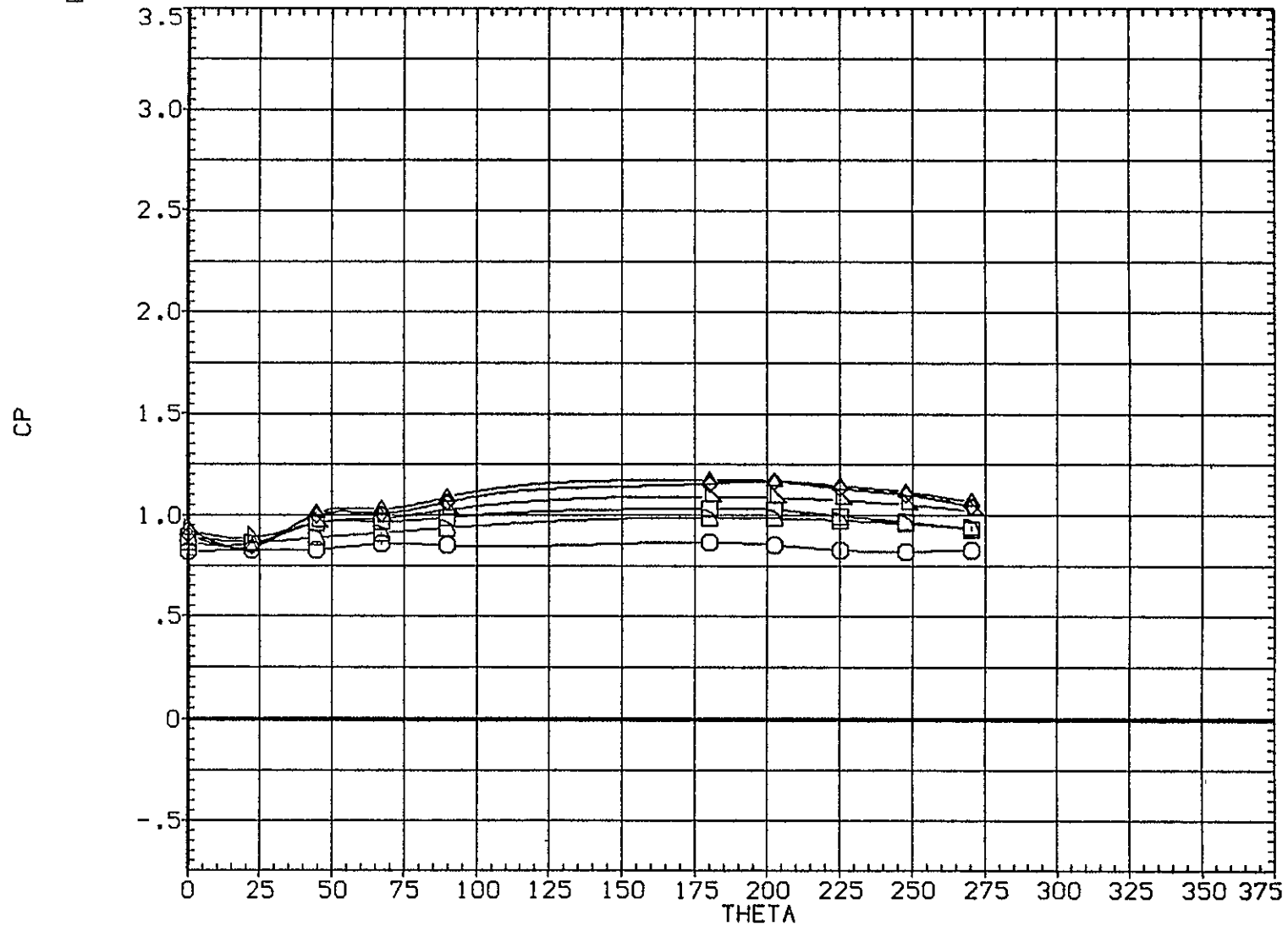
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G008)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES			
				BETA	PHI		
○	.030	1.960	1.447		.000	PHI	.000
□	.036						
◇	.039						
△	.041						
▽	.044						
▽	.049						

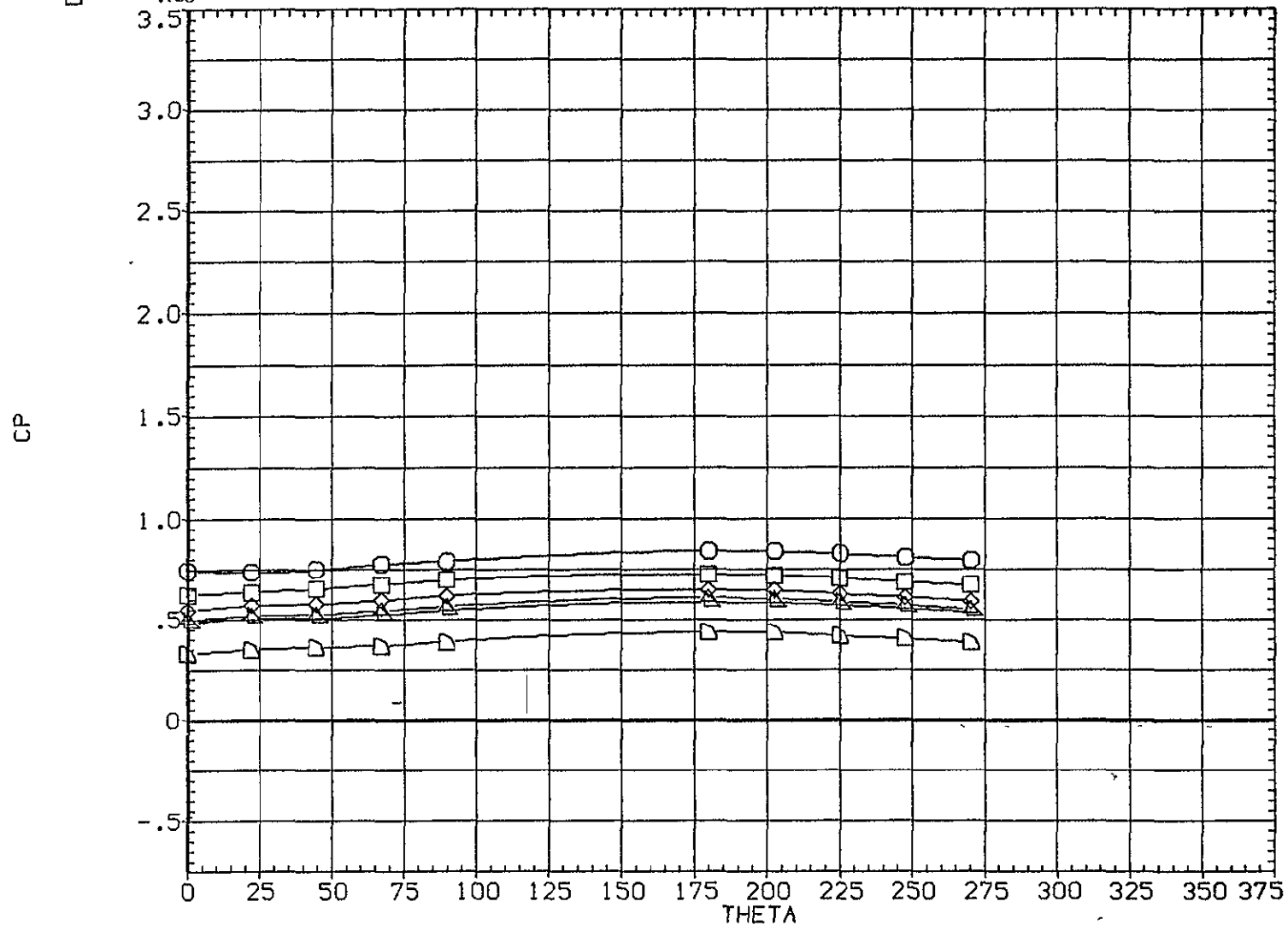


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

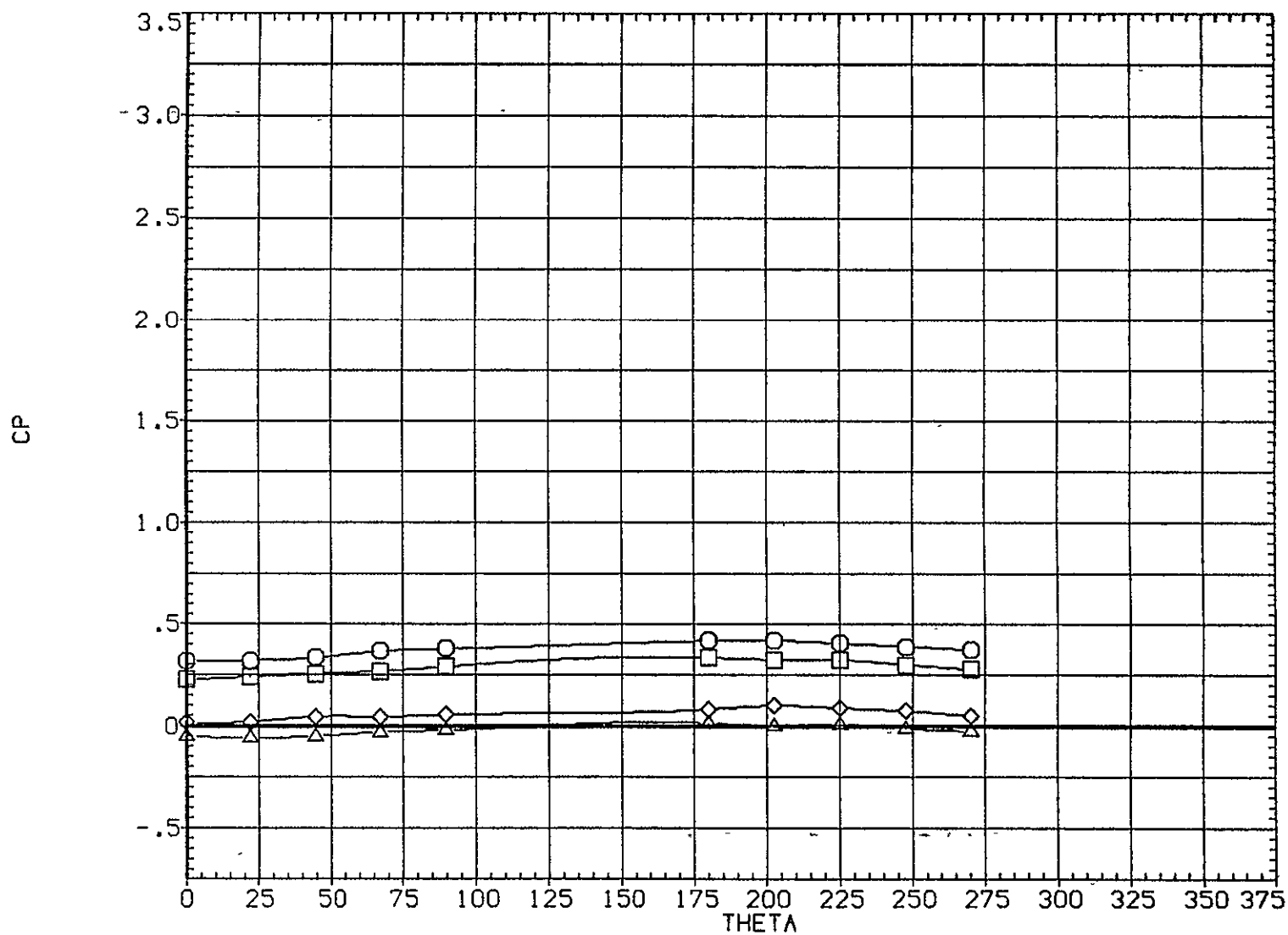
(B1G008)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	1.960	1.447			
□	.068					
◇	.077					
△	.085					
▽	.093					
◁	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	1.960	1.447			
□	.131					
◇	.167					
△	.185					

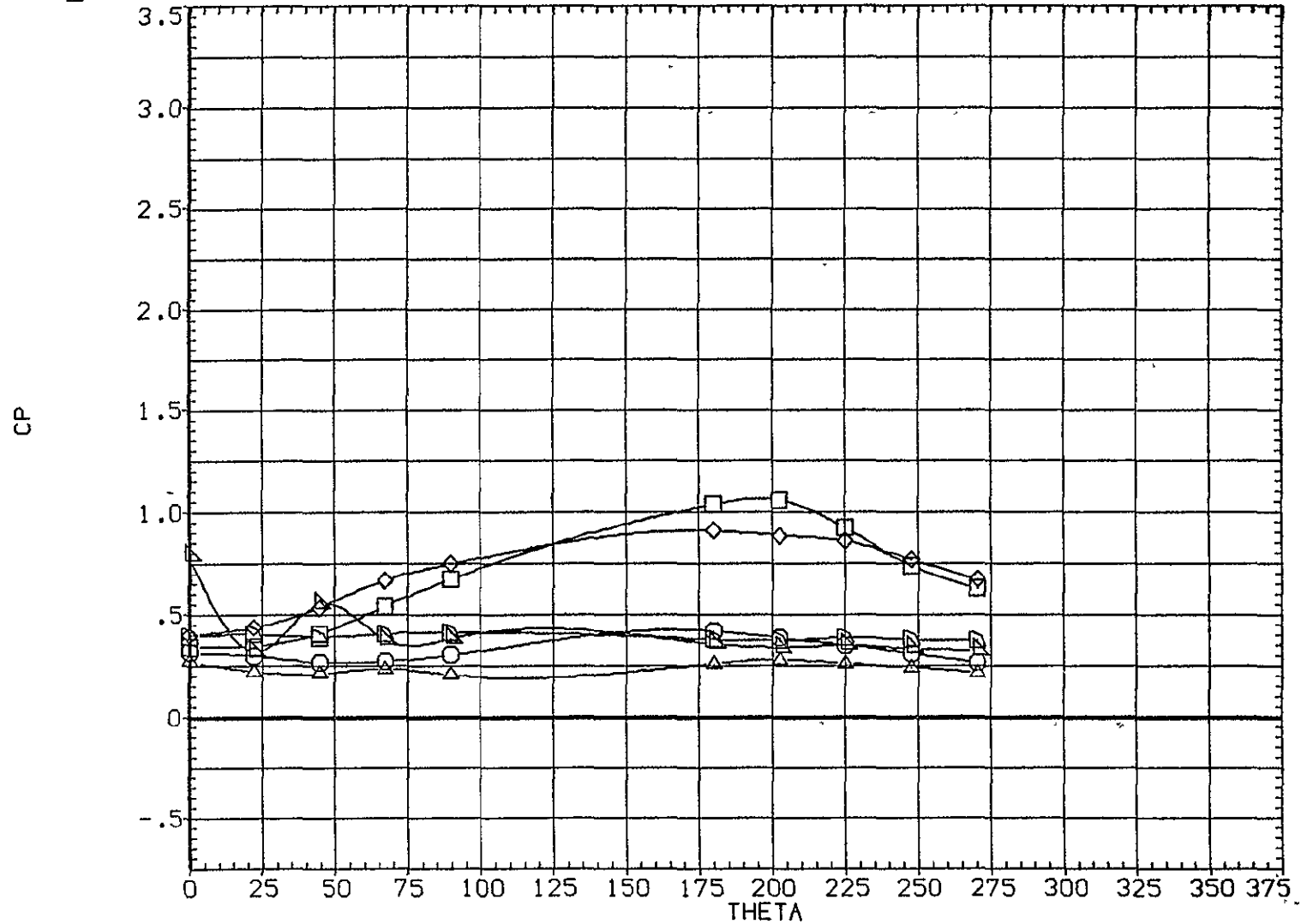


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

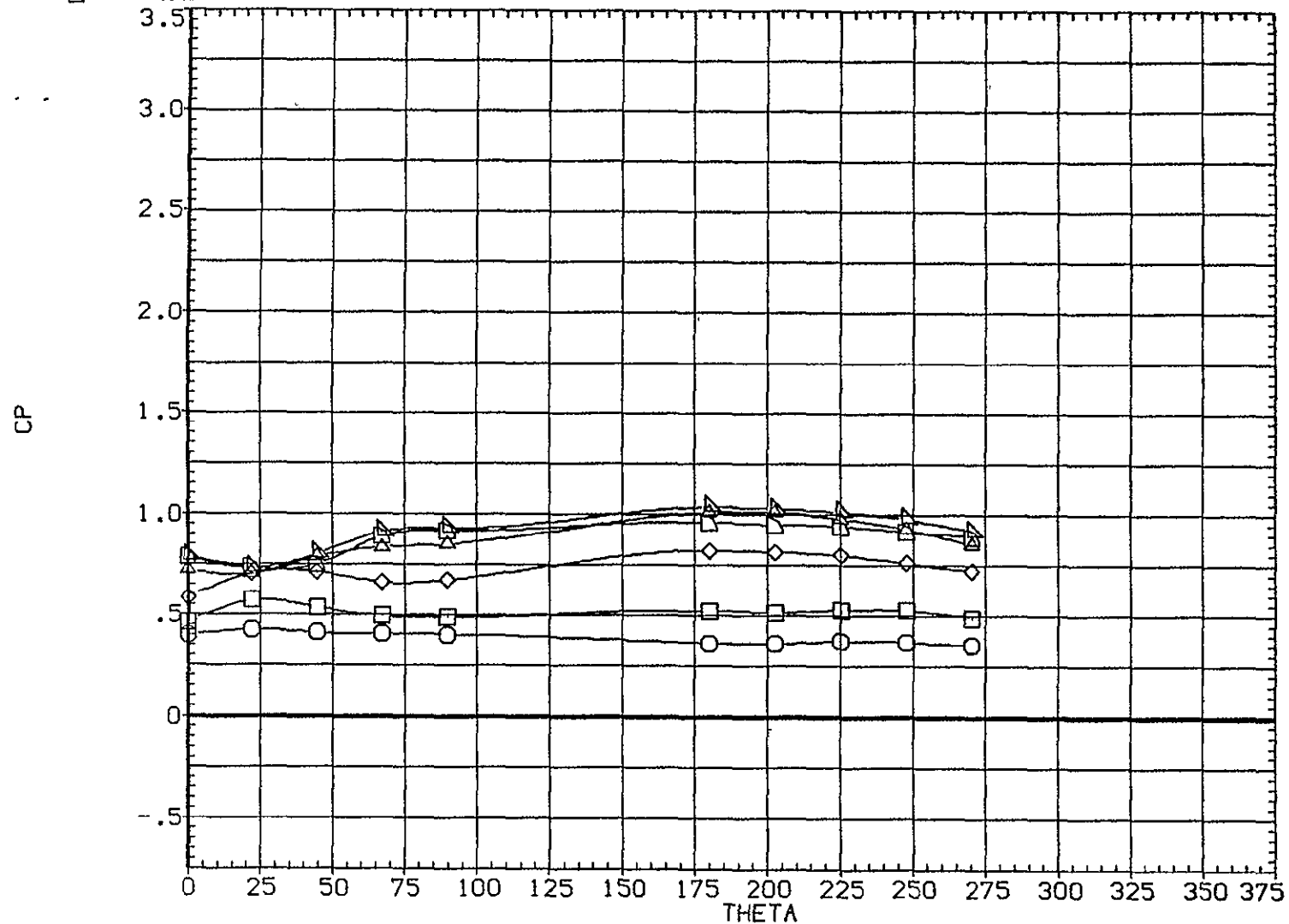
(B1G008)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	1.960	1.961			
□	.018					
△	.020					
▽	.022					
◇	.025					
◊	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	.000
○	.030	1.960	1.961			
□	.036					
◇	.039					
△	.041					
▽	.044					
▷	.049					

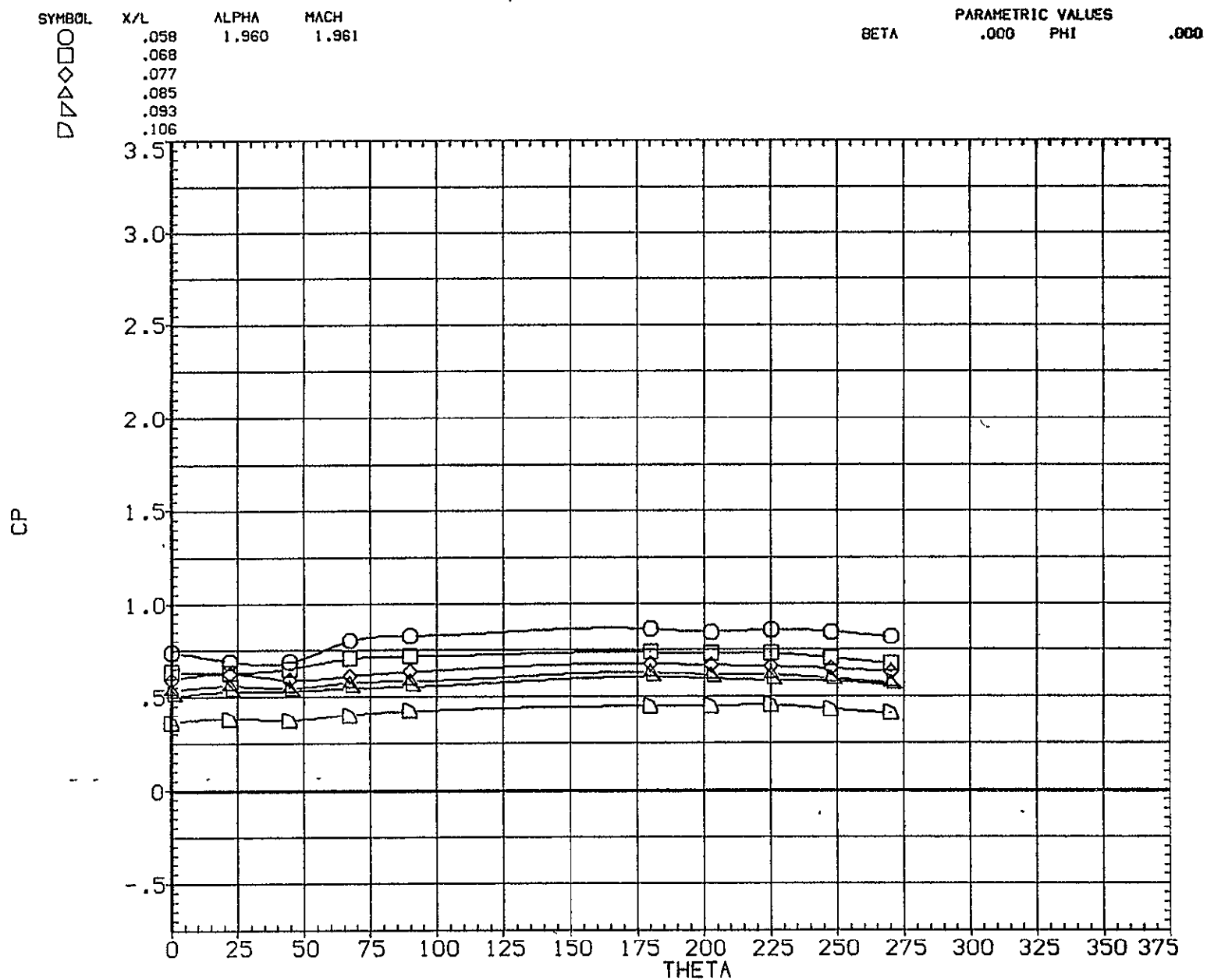


EFFECT OF RADIAL LOCATION ON PRESSURE



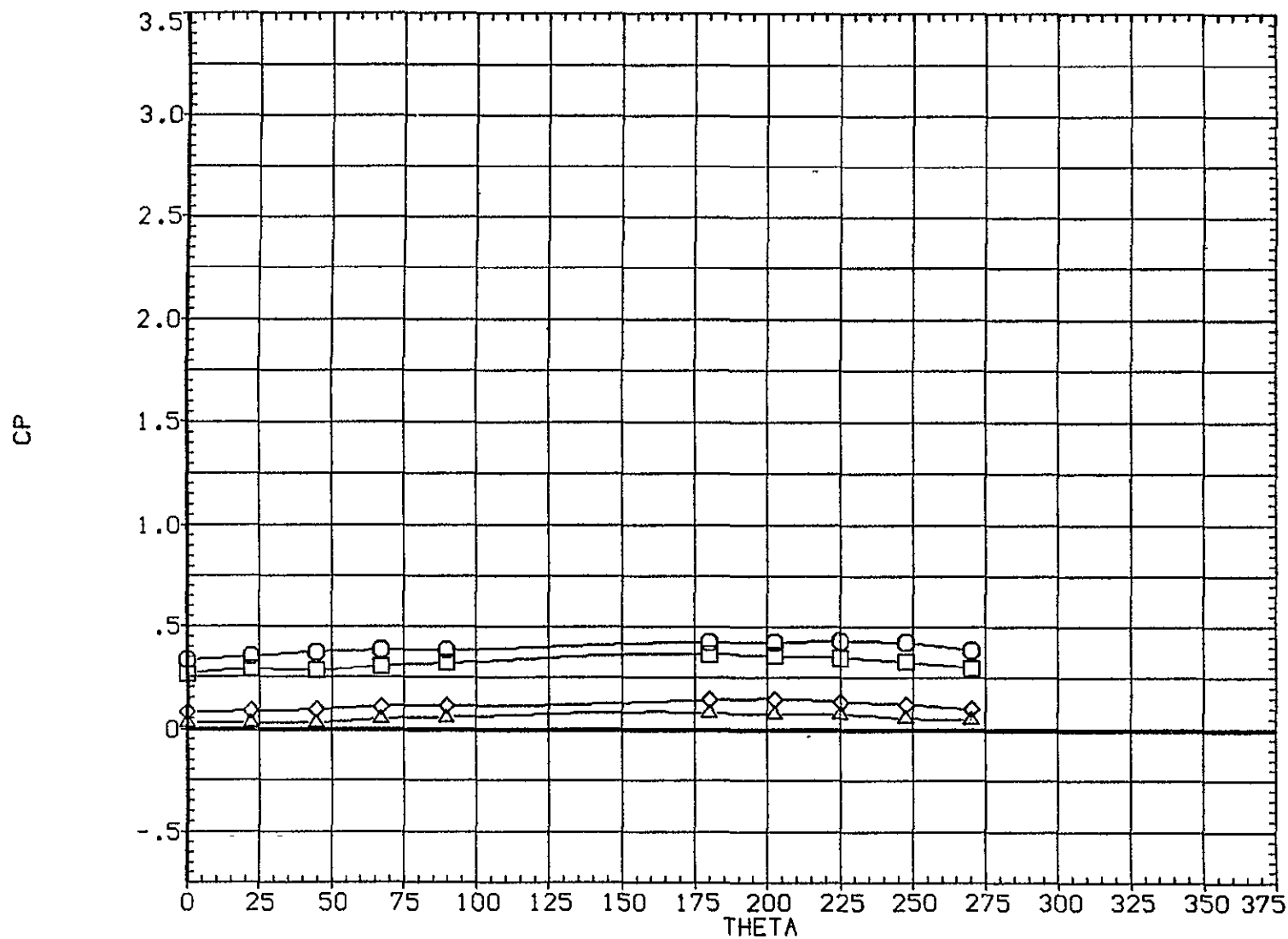
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G008)



EFFECT OF RADIAL LOCATION ON PRESSURE

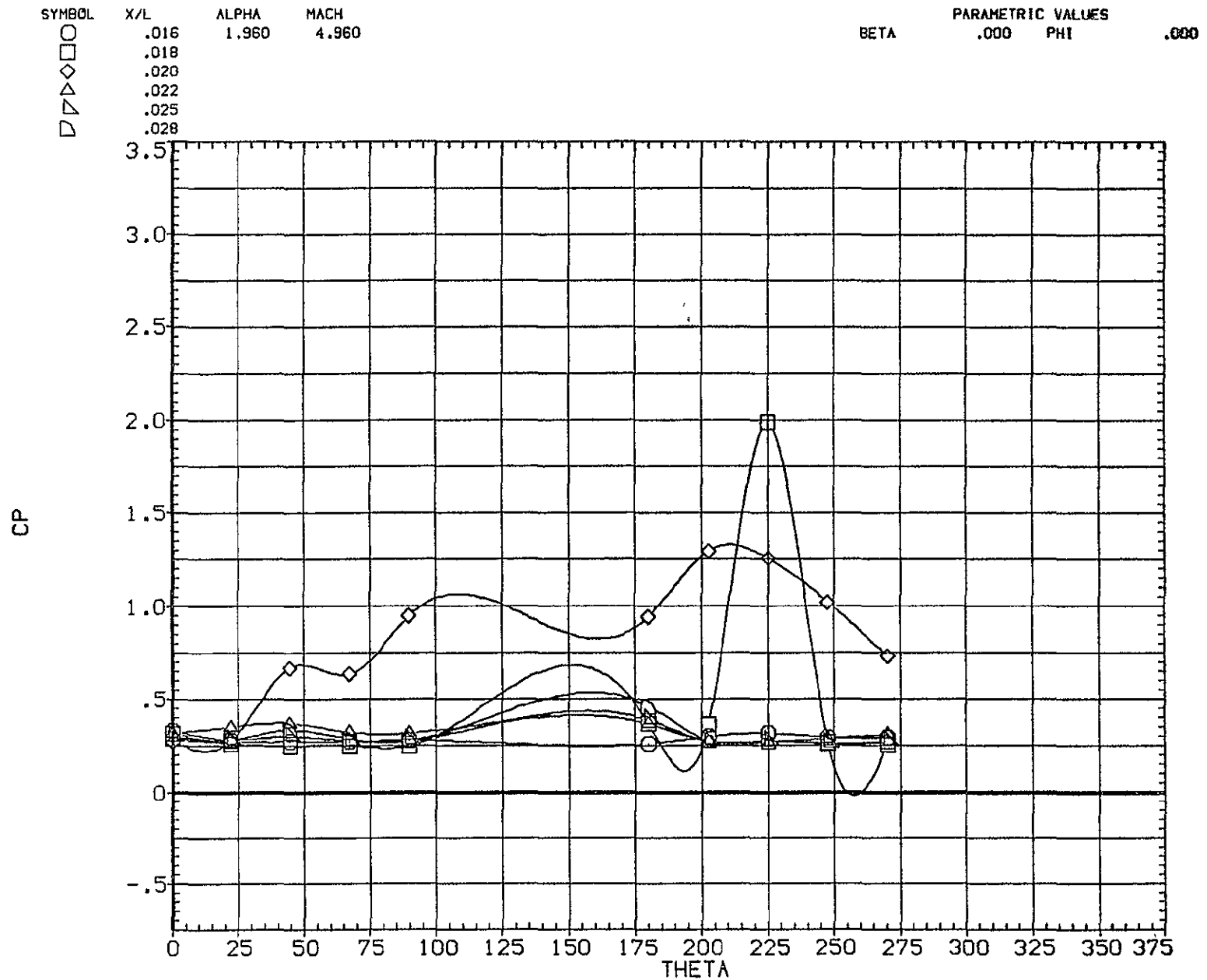
SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	1.960	1.961		.000		.000
□	.131						
◇	.167						
△	.185						



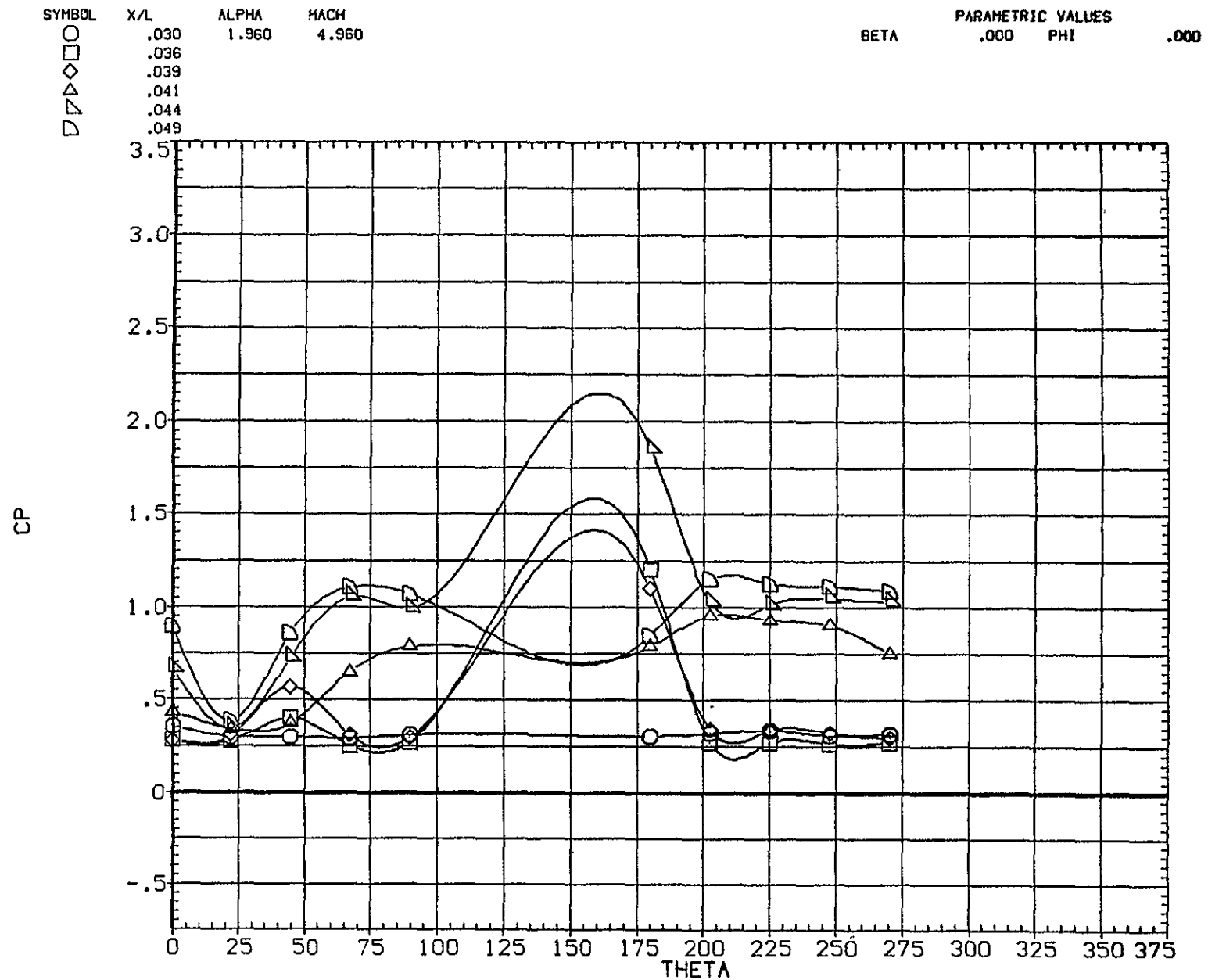
EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G008)



EFFECT OF RADIAL LOCATION ON PRESSURE

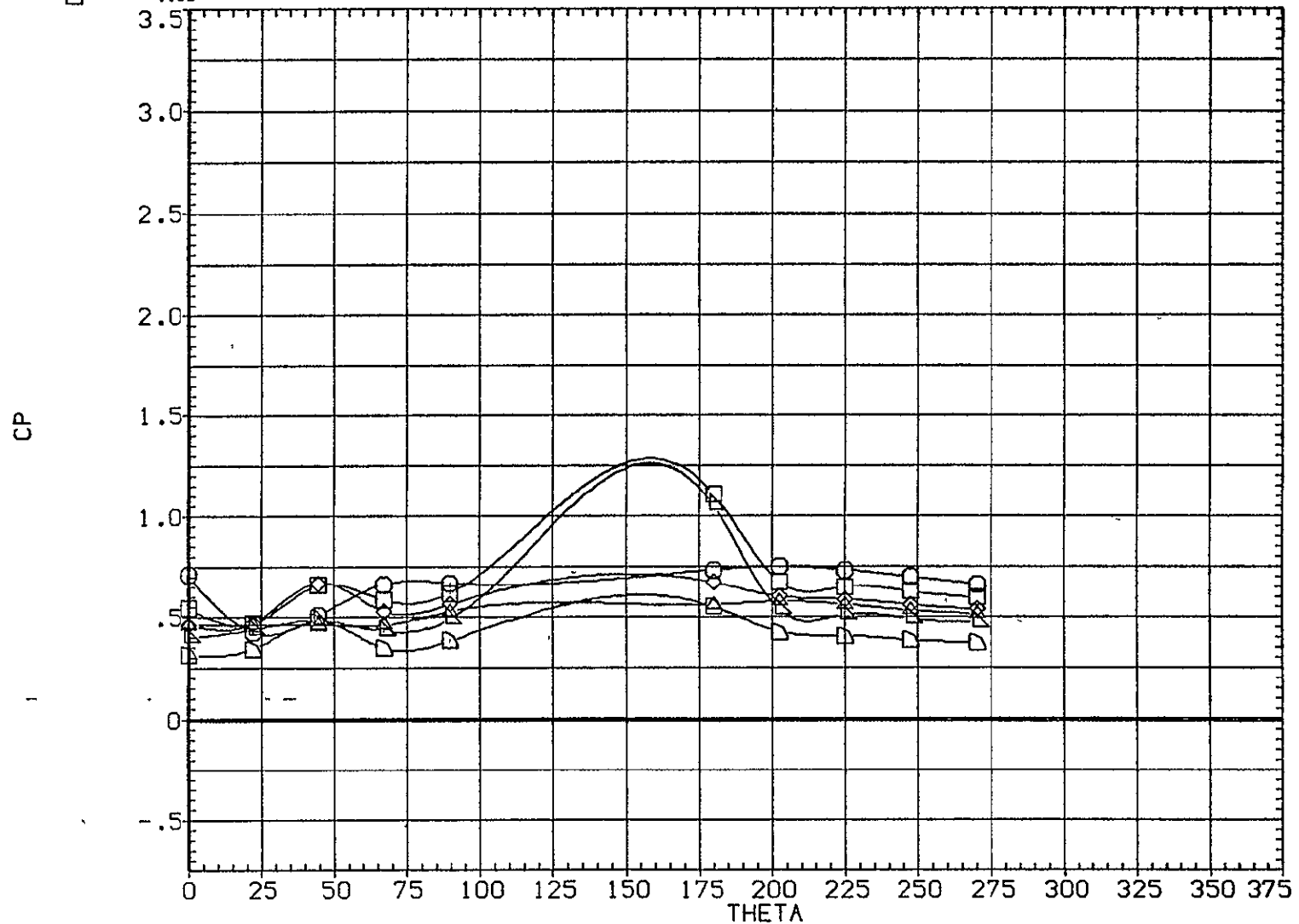


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

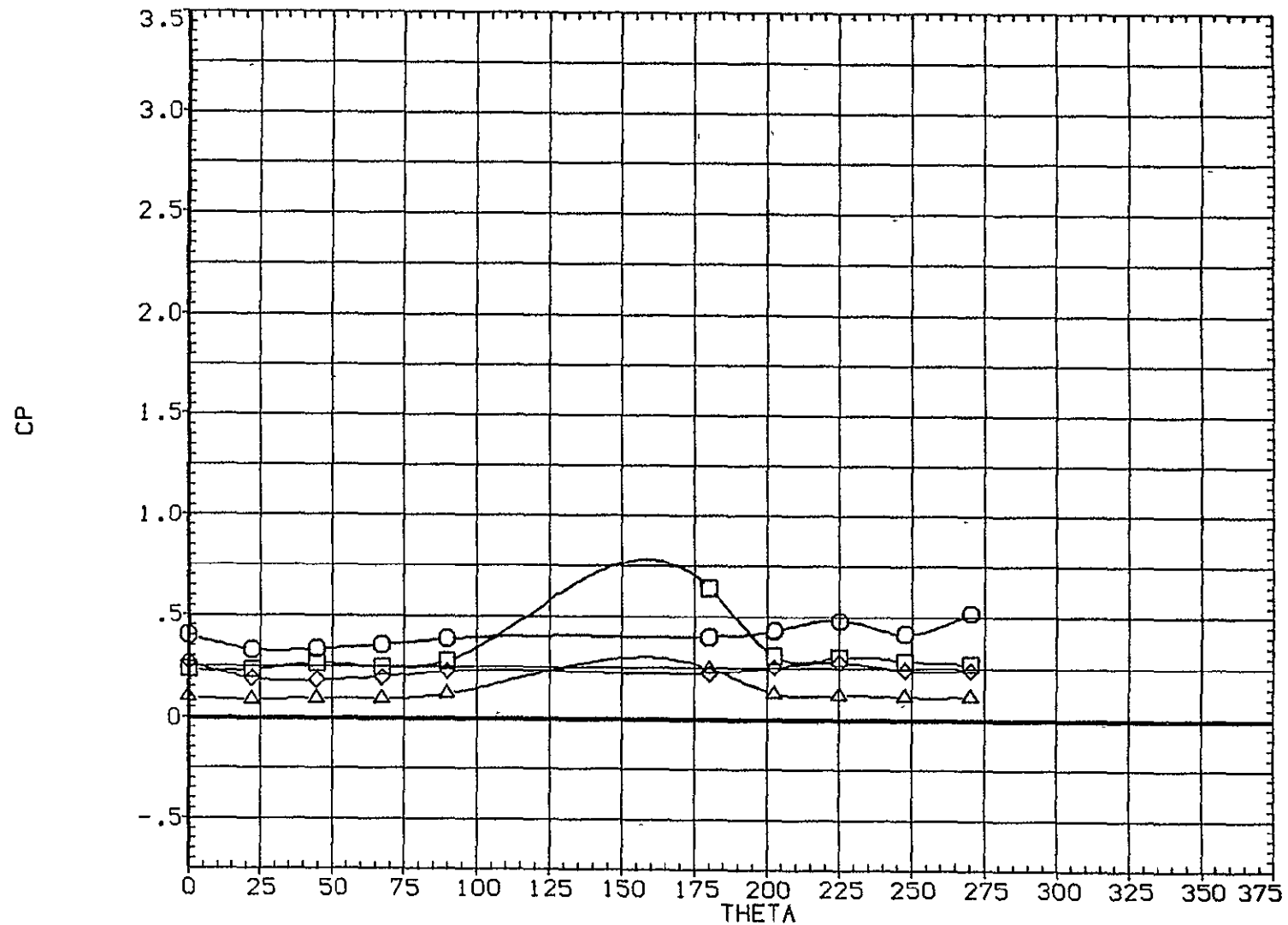
(B1G008)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	1.960	4.960			
□	.068					
◇	.077					
△	.085					
▽	.093					
◁	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

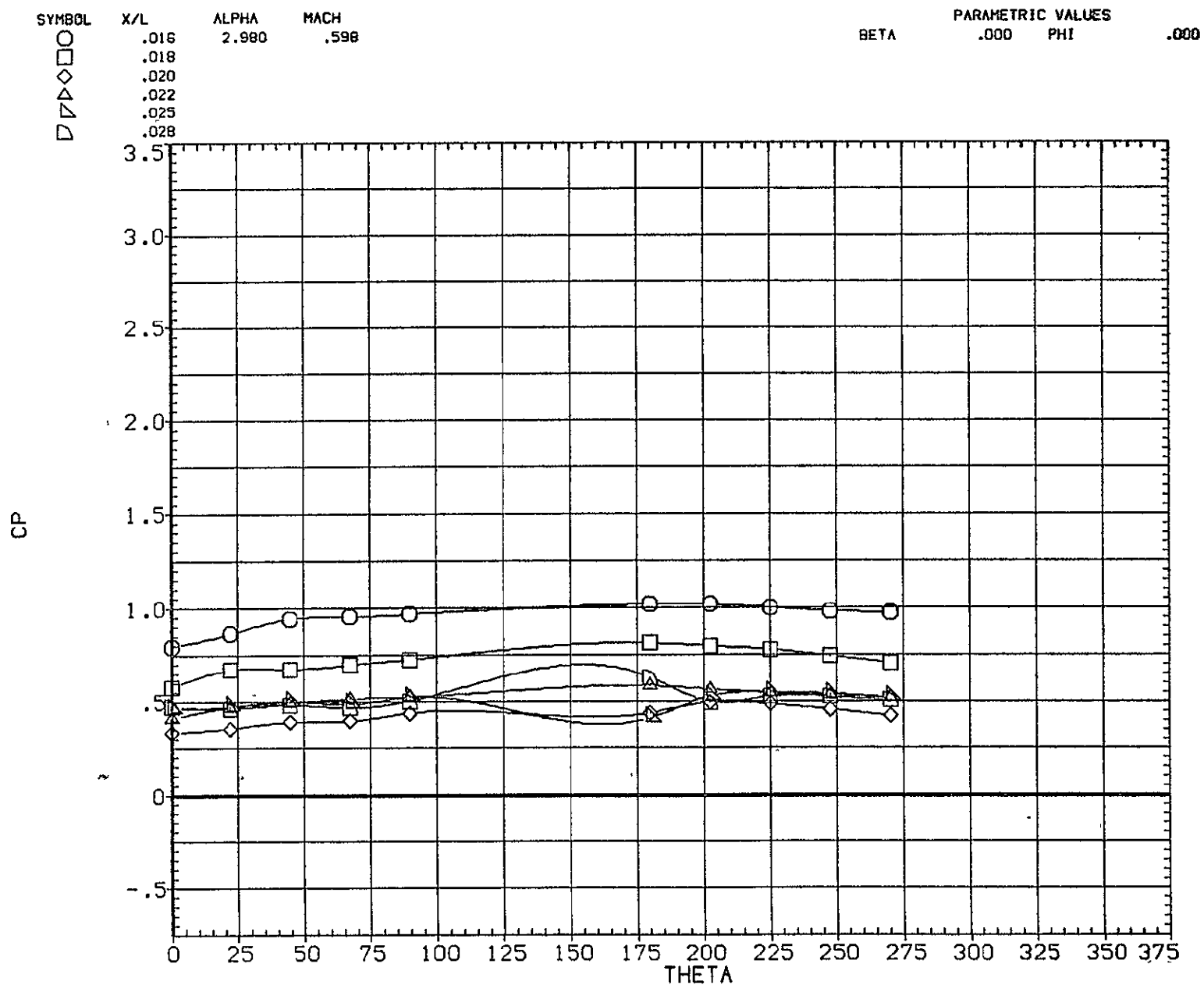
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	1.960	4.960			
□	.131					
◇	.167					
△	.185					



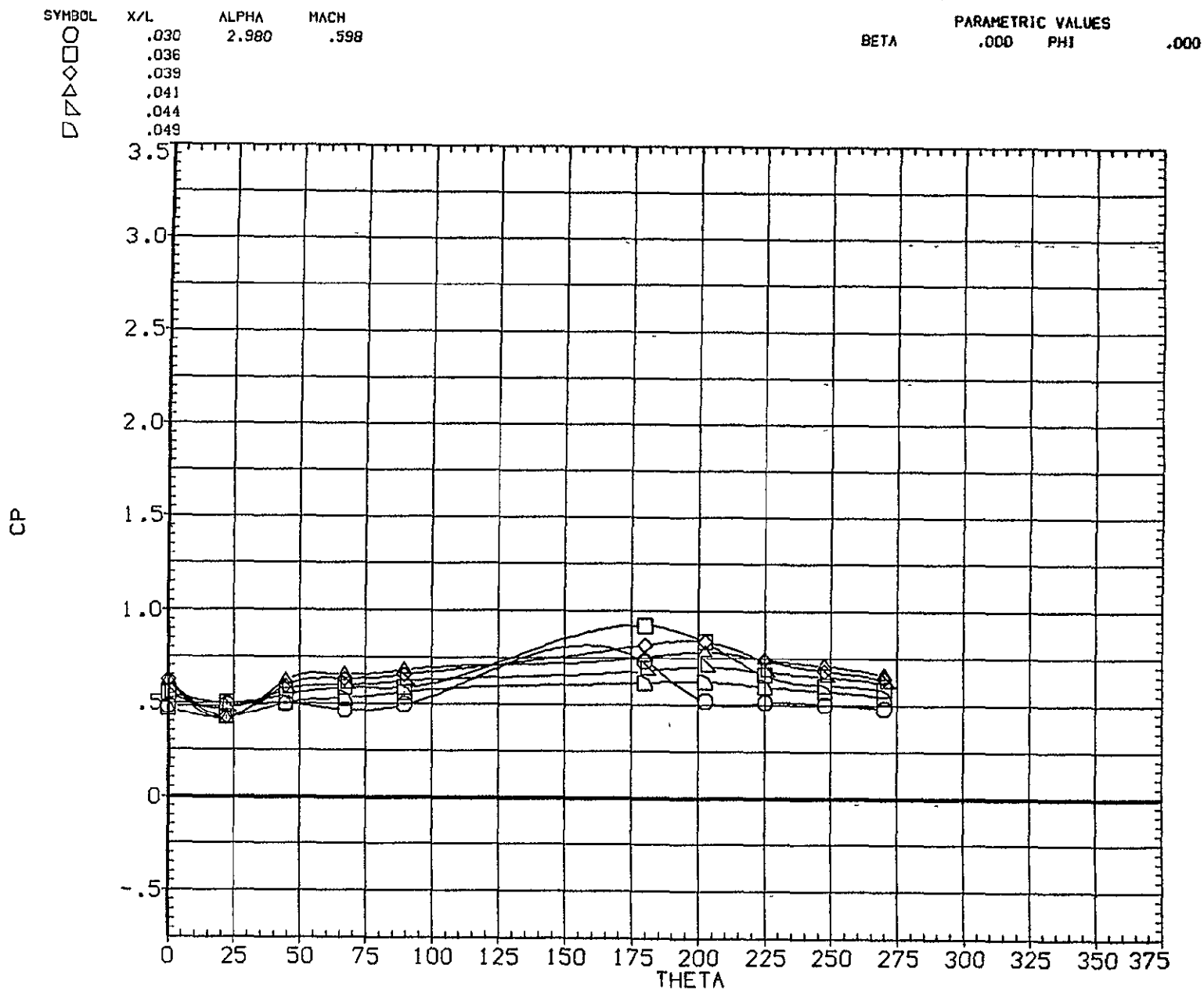
EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G009)



EFFECT OF RADIAL LOCATION ON PRESSURE



EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G009)

SYMBOL

X/L

ALPHA

MACH

BETA

PARAMETRIC VALUES

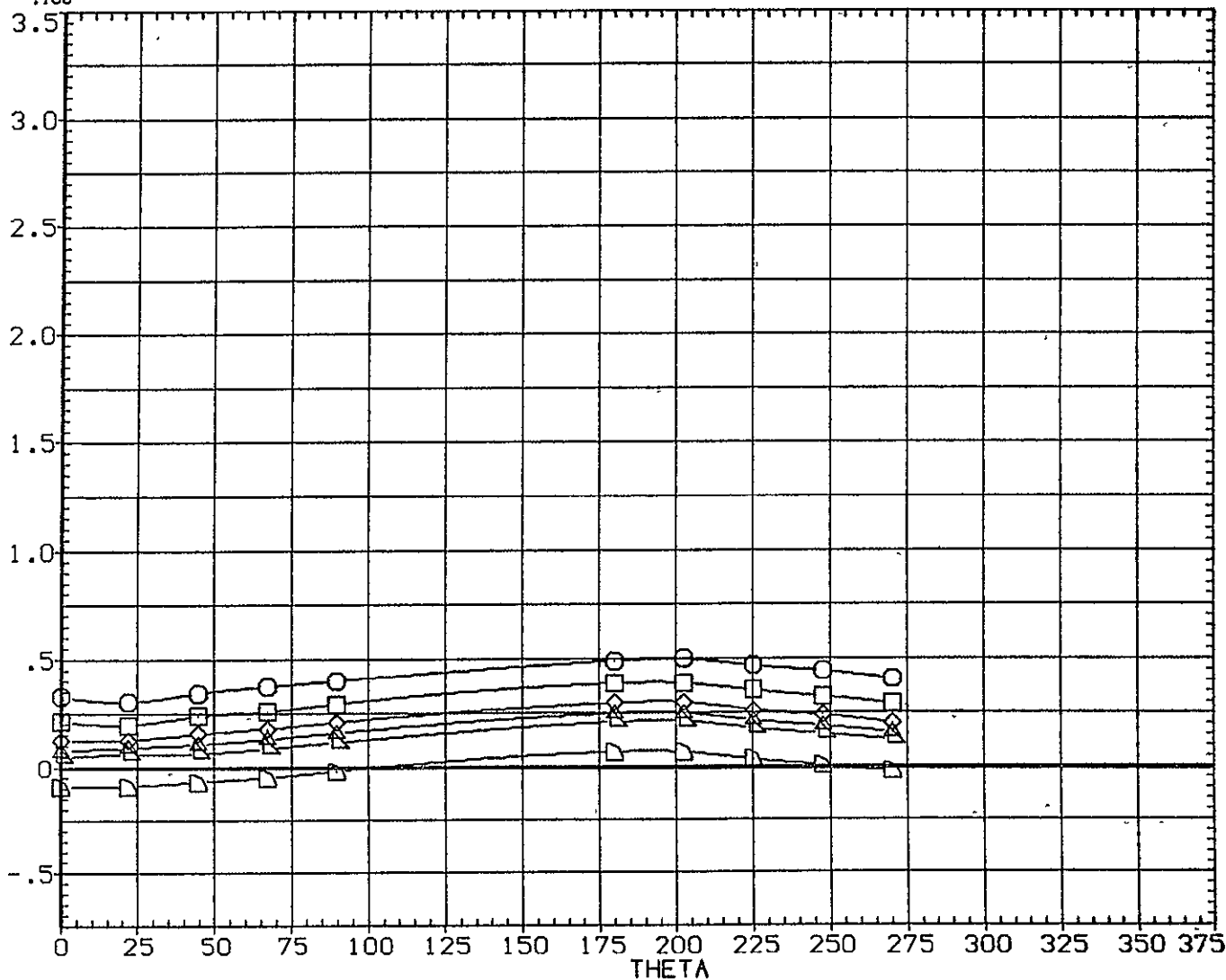
.000

PHI

.000

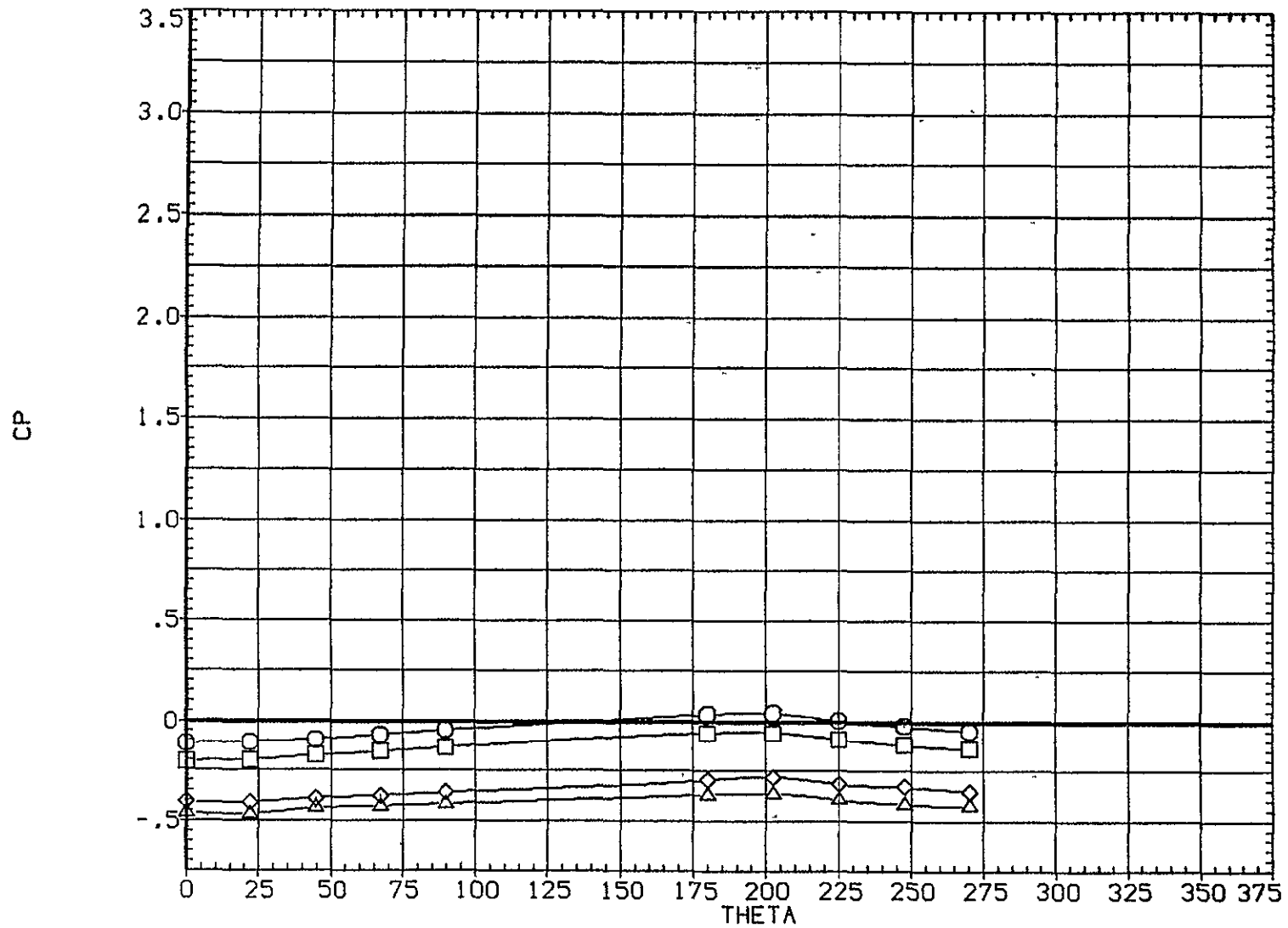
CP

.058  
.068  
.077  
.085  
.093  
.106



EFFECT OF RADIAL LOCATION ON PRESSURE

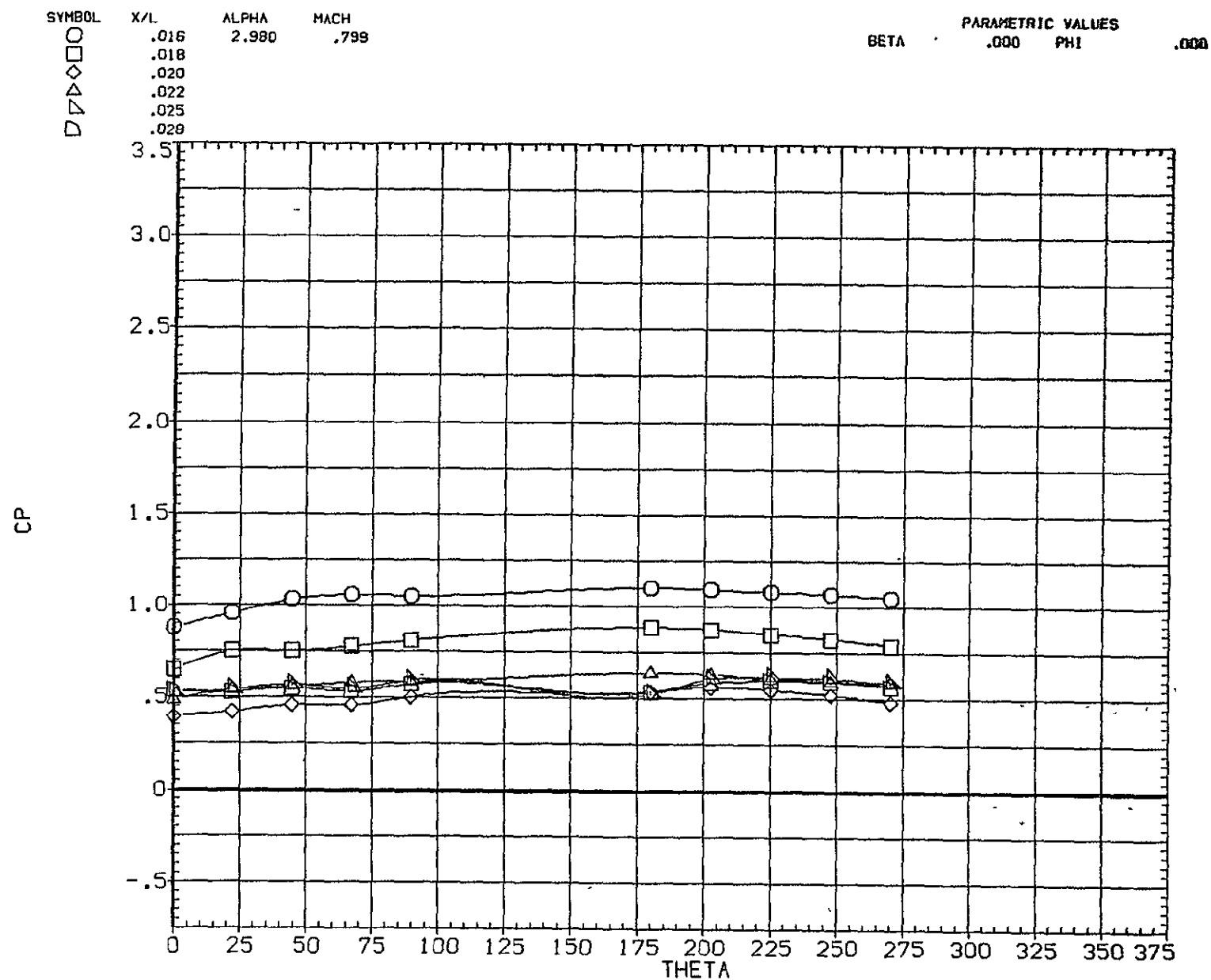
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	2.980	.598			
□	.131					
◇	.167					
△	.185					



EFFECT OF RADIAL LOCATION ON PRESSURE

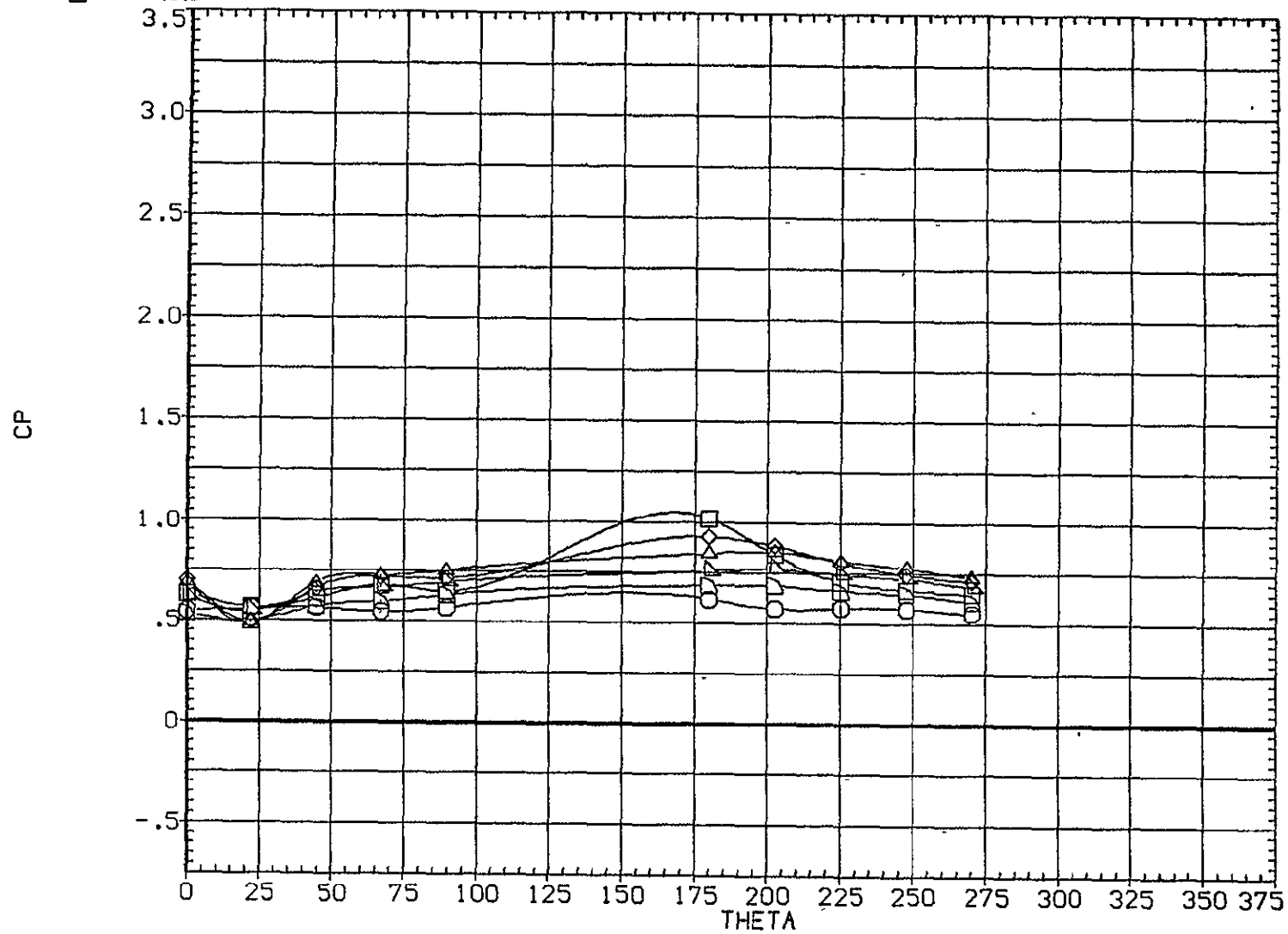
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G009)



EFFECT OF RADIAL LOCATION ON PRESSURE

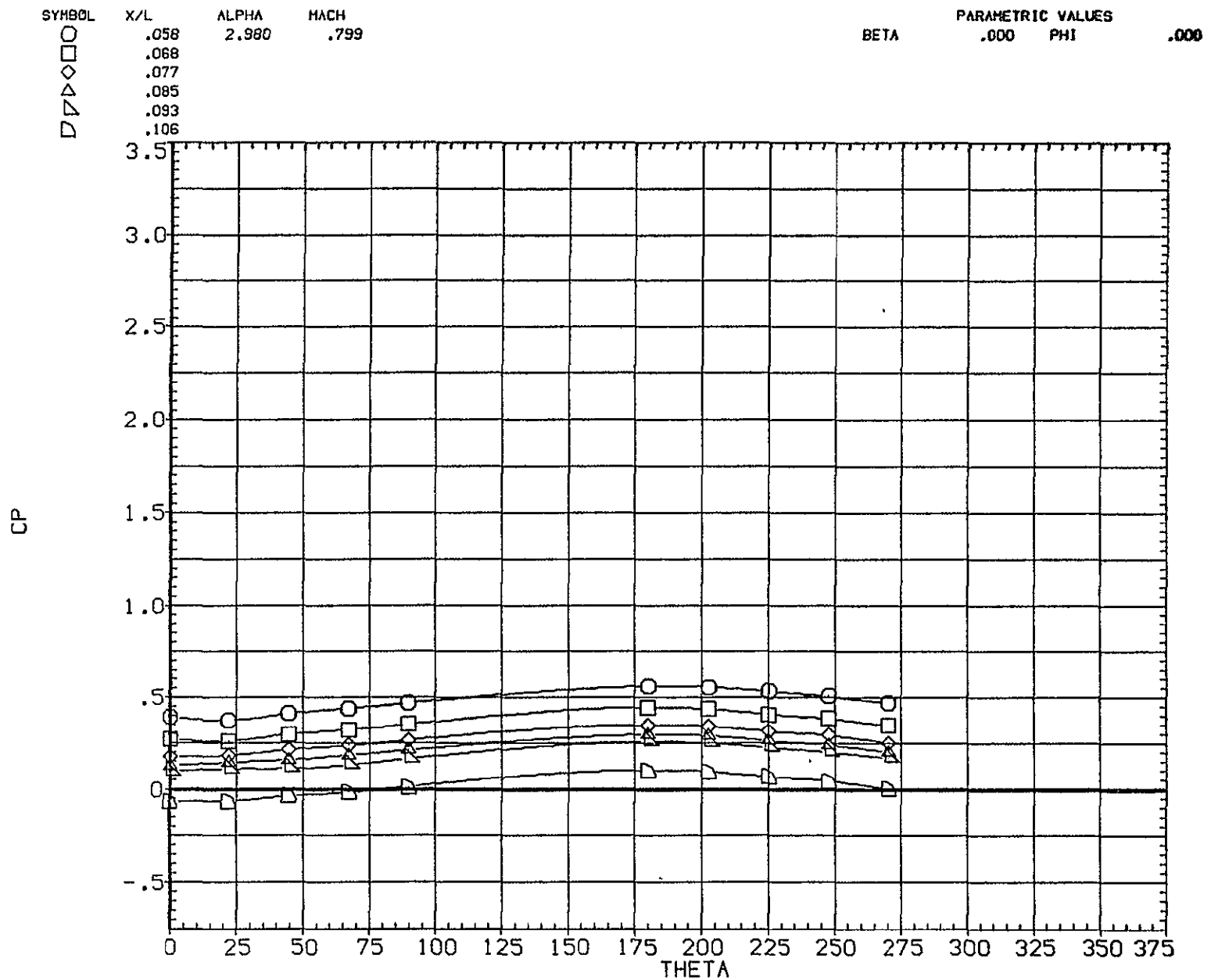
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	2.980	.799			
□	.036					
◇	.039					
△	.041					
▽	.044					
▷	.049					



EFFECT OF RADIAL LOCATION ON PRESSURE

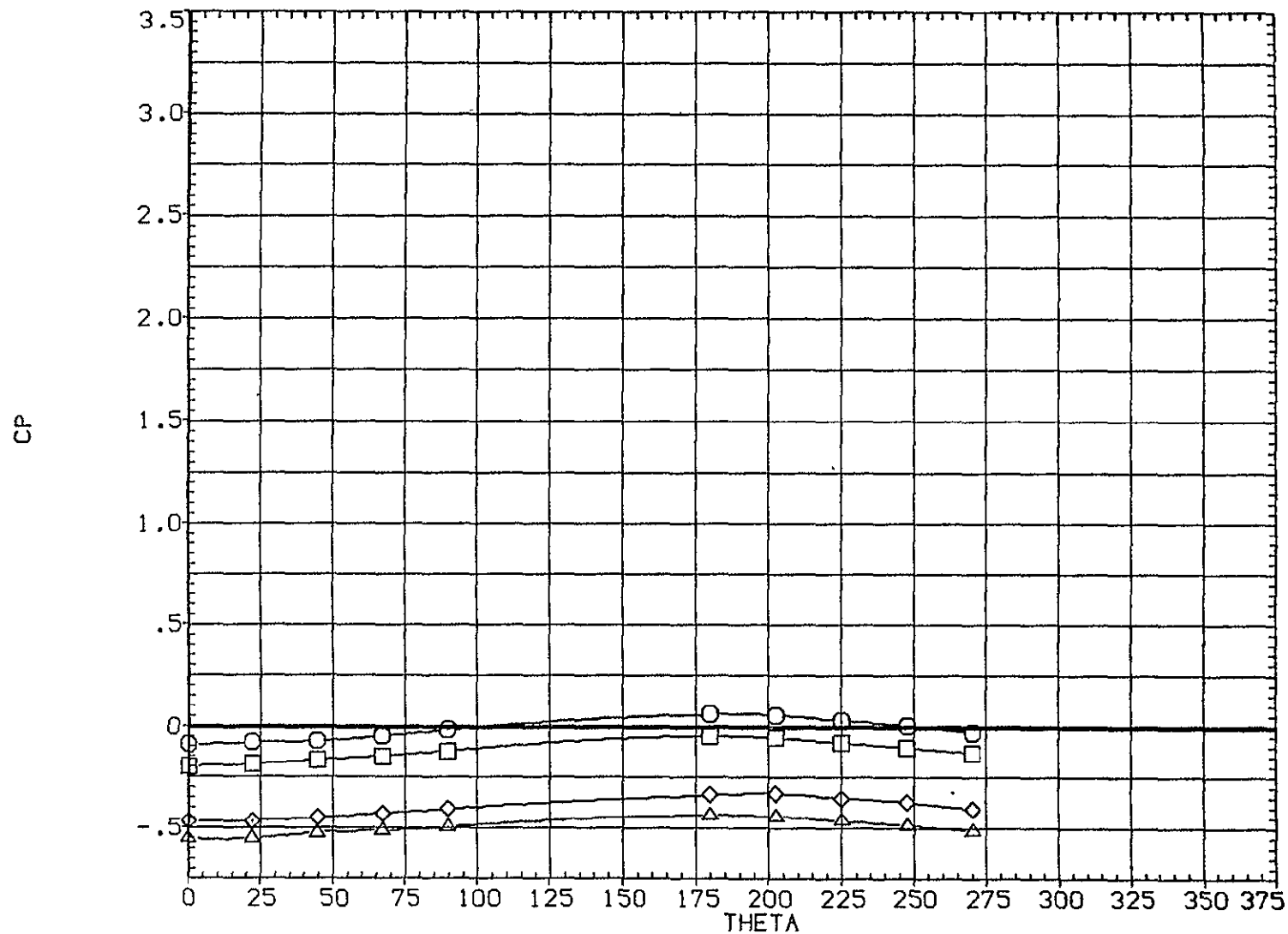
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16009)



EFFECT OF RADIAL LOCATION ON PRESSURE

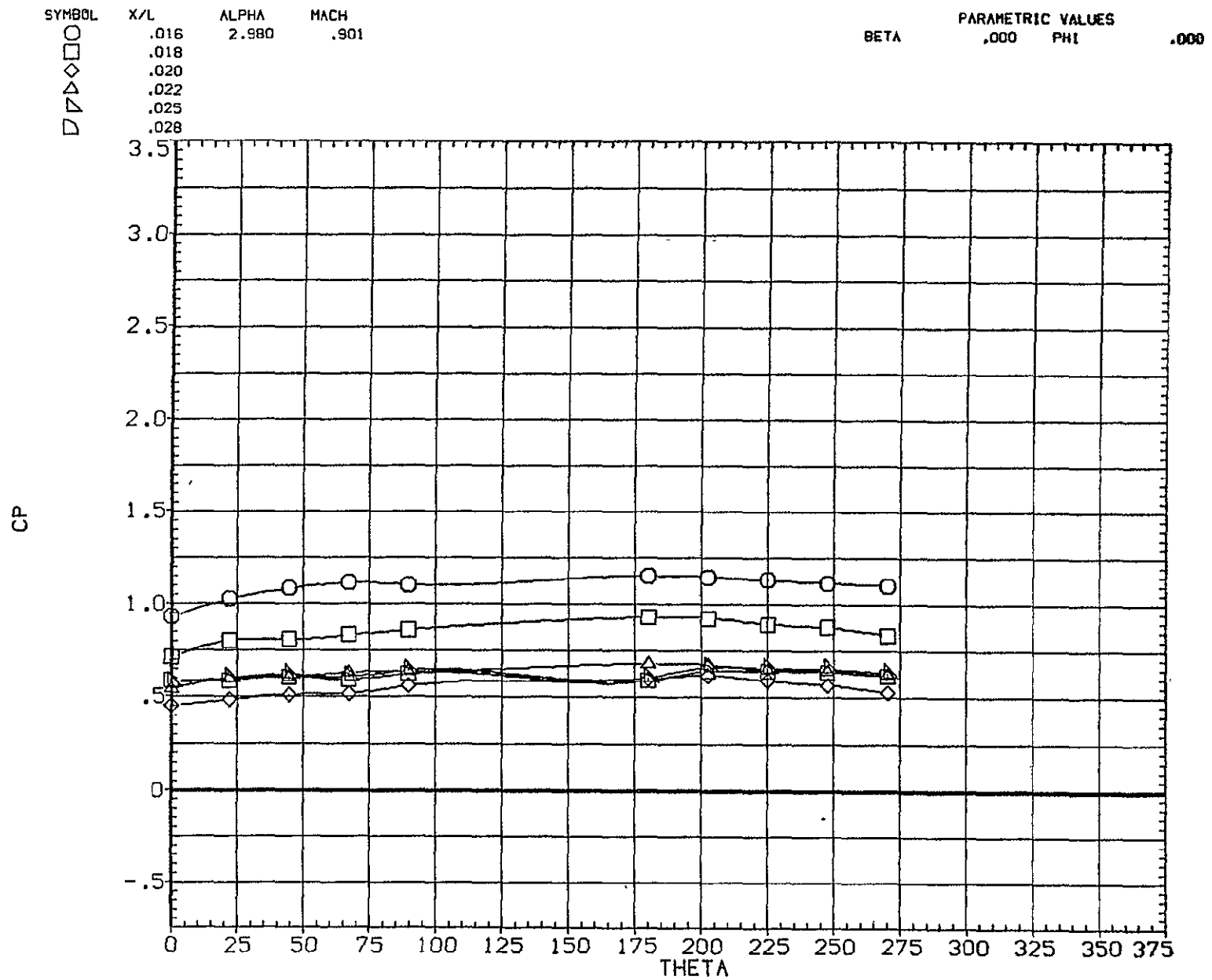
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	.000
○	.118	2.980	.799			
□	.131					
◇	.167					
△	.185					



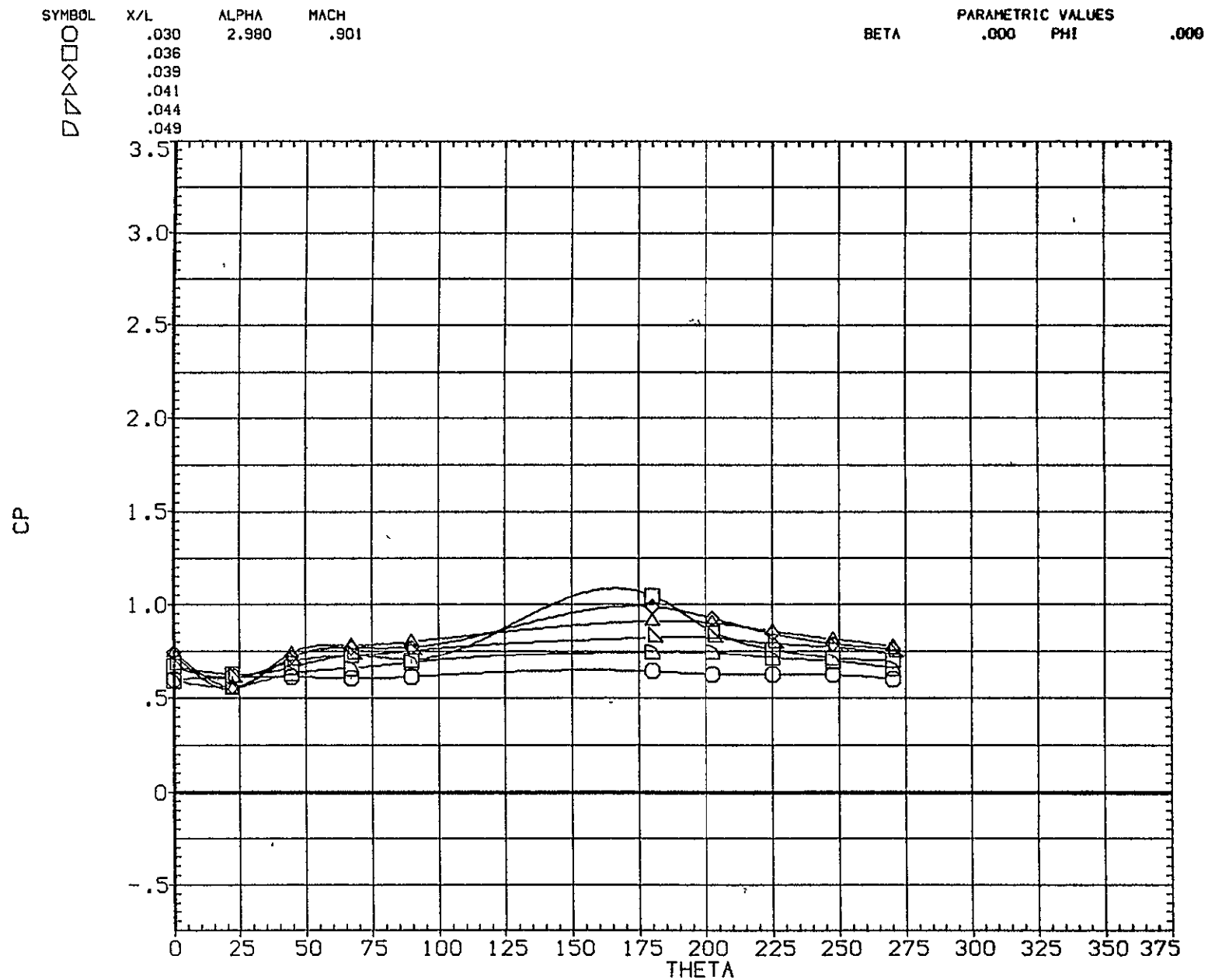
EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G009)



EFFECT OF RADIAL LOCATION ON PRESSURE



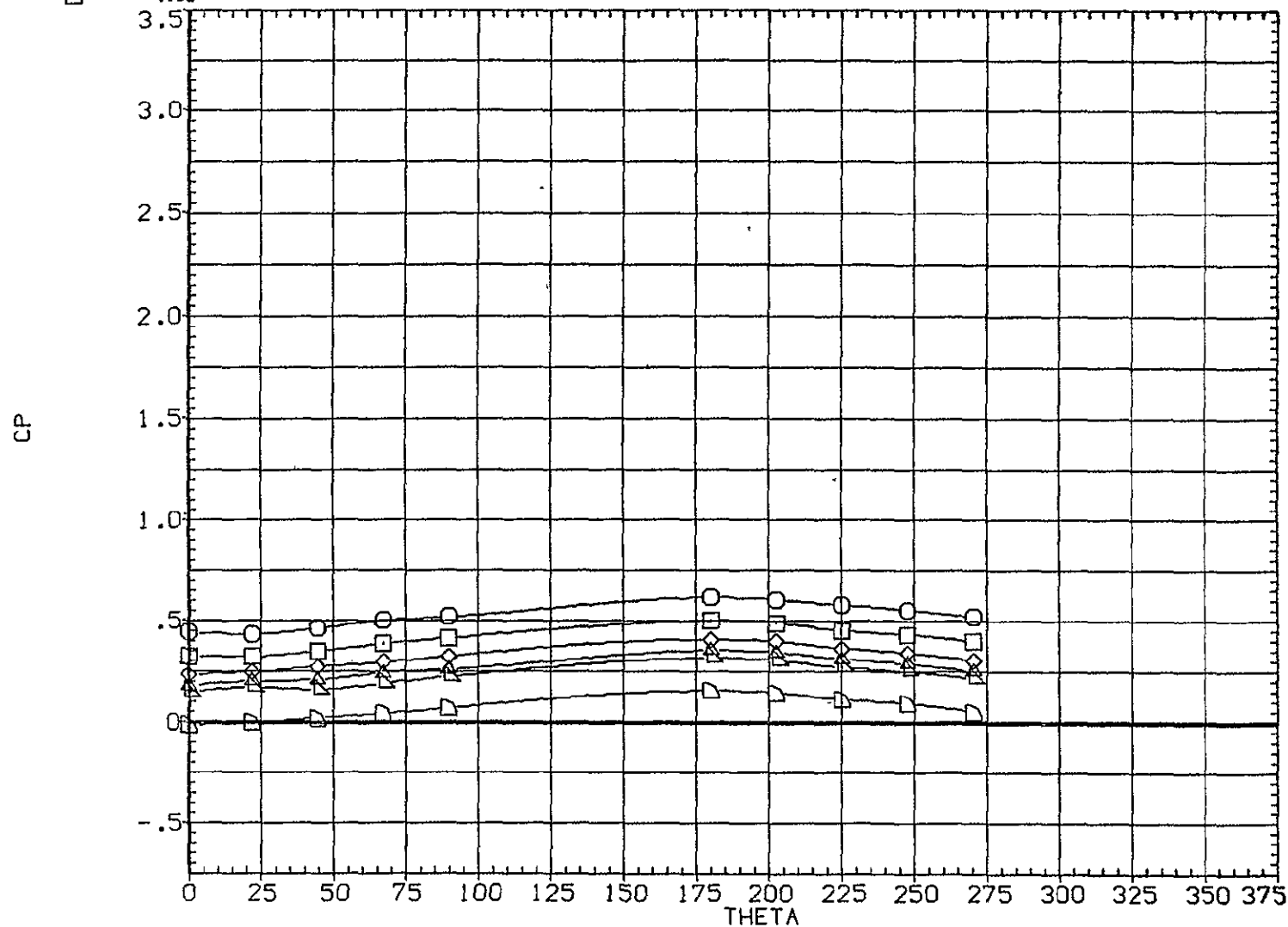
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

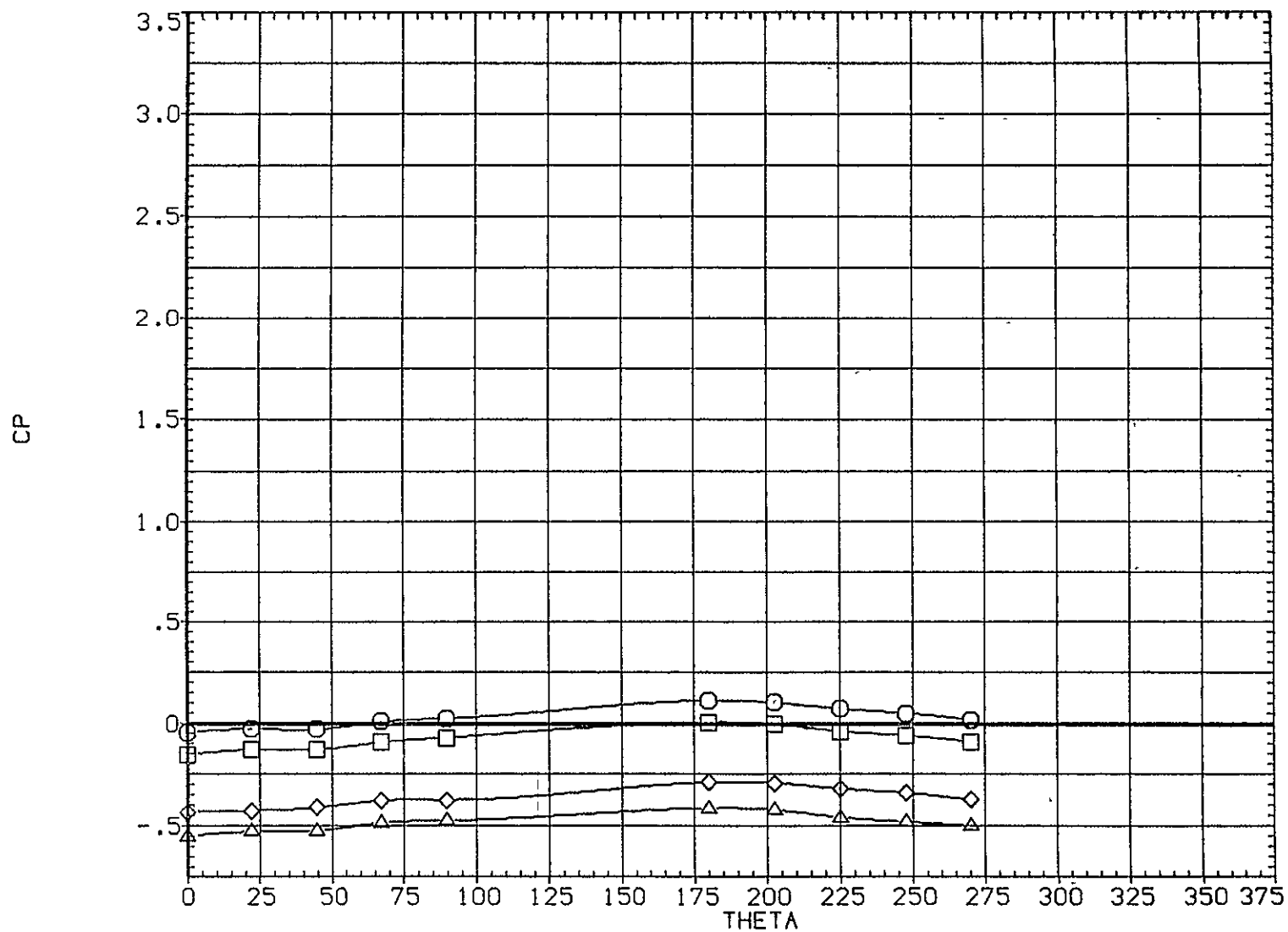
(B1G009)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	2.980	.901			
□	.068					
◇	.077					
△	.085					
▽	.093					
◁	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

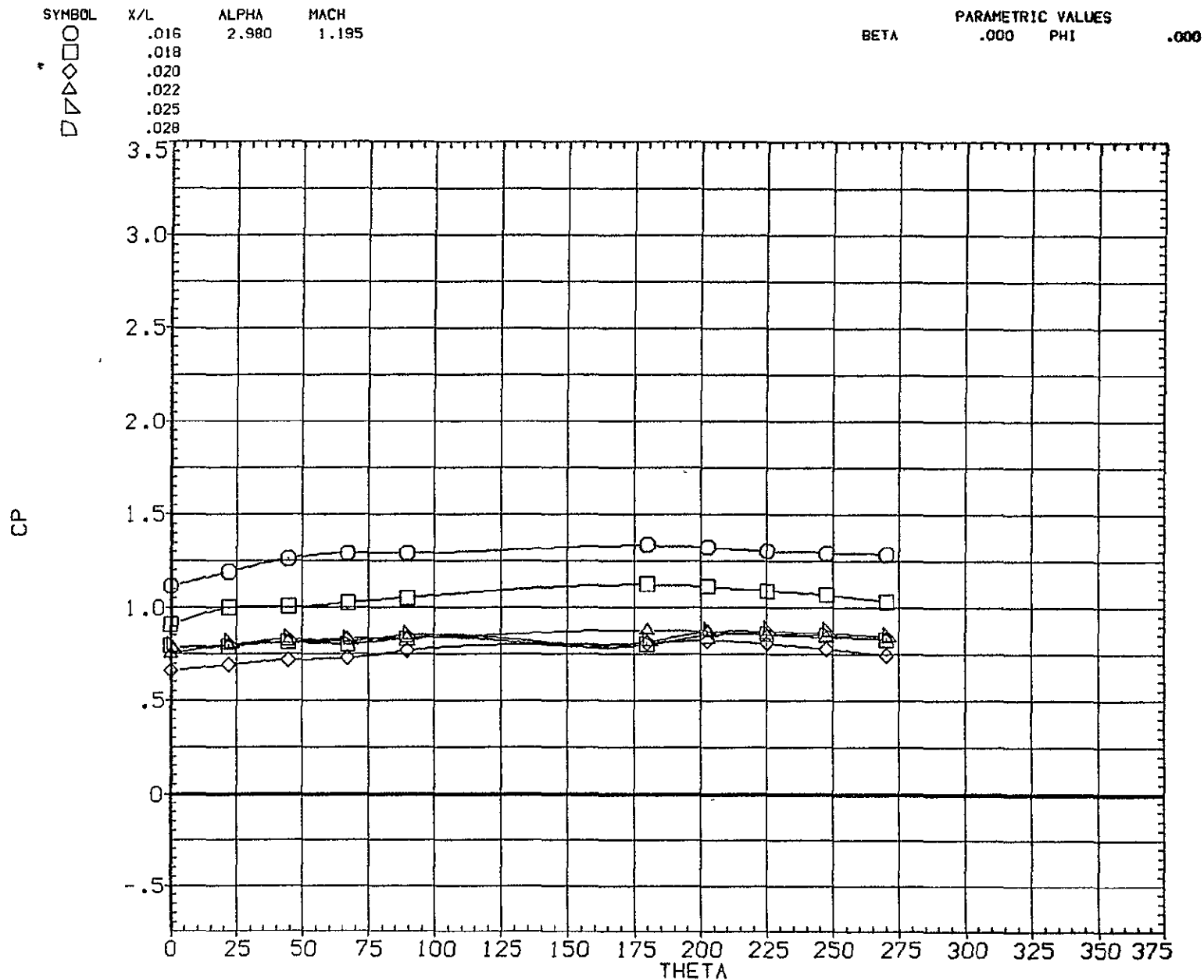
SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	2.980	.901		.000		.000
□	.131						
◇	.167						
△	.185						



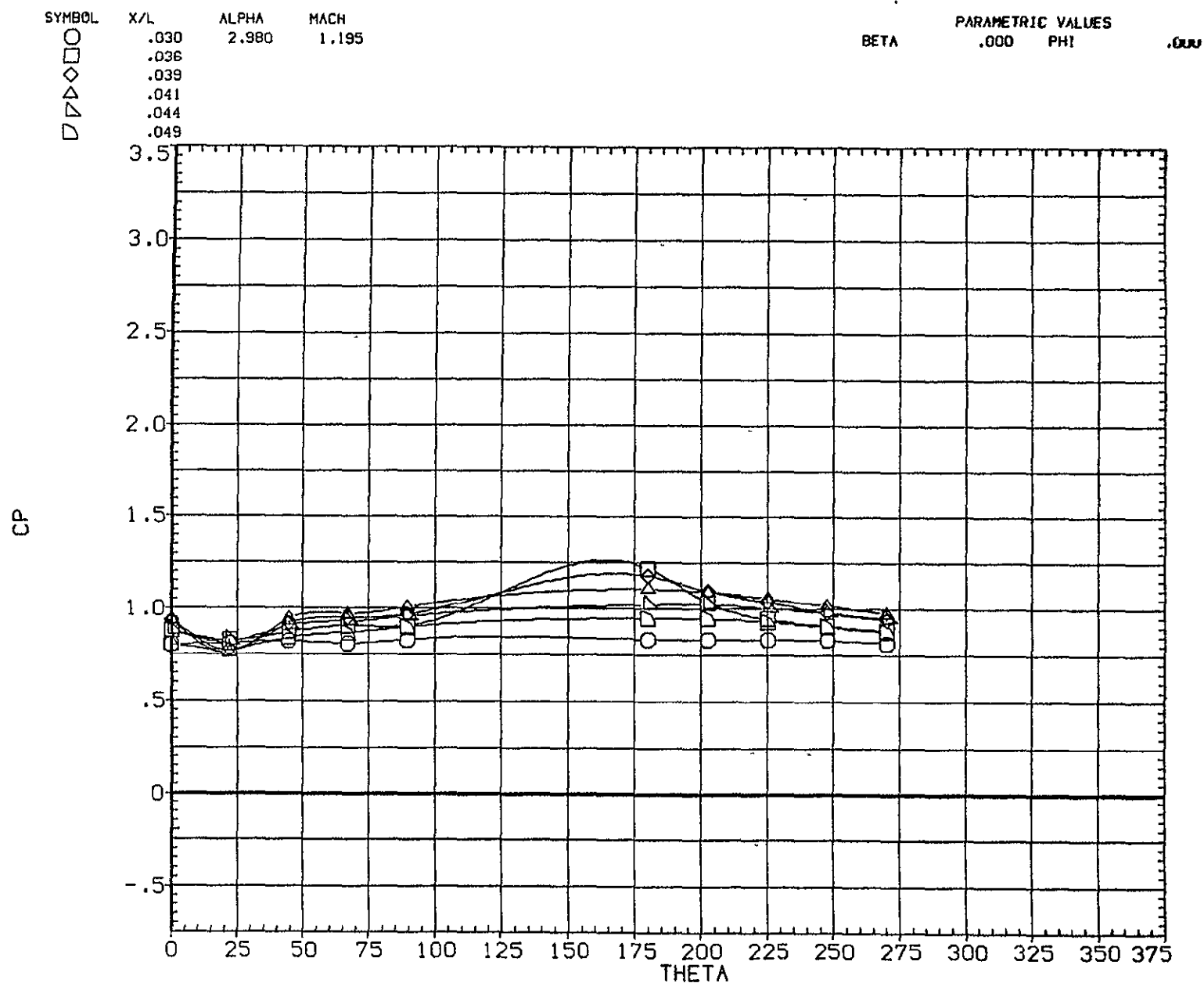
EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16009)



EFFECT OF RADIAL LOCATION ON PRESSURE

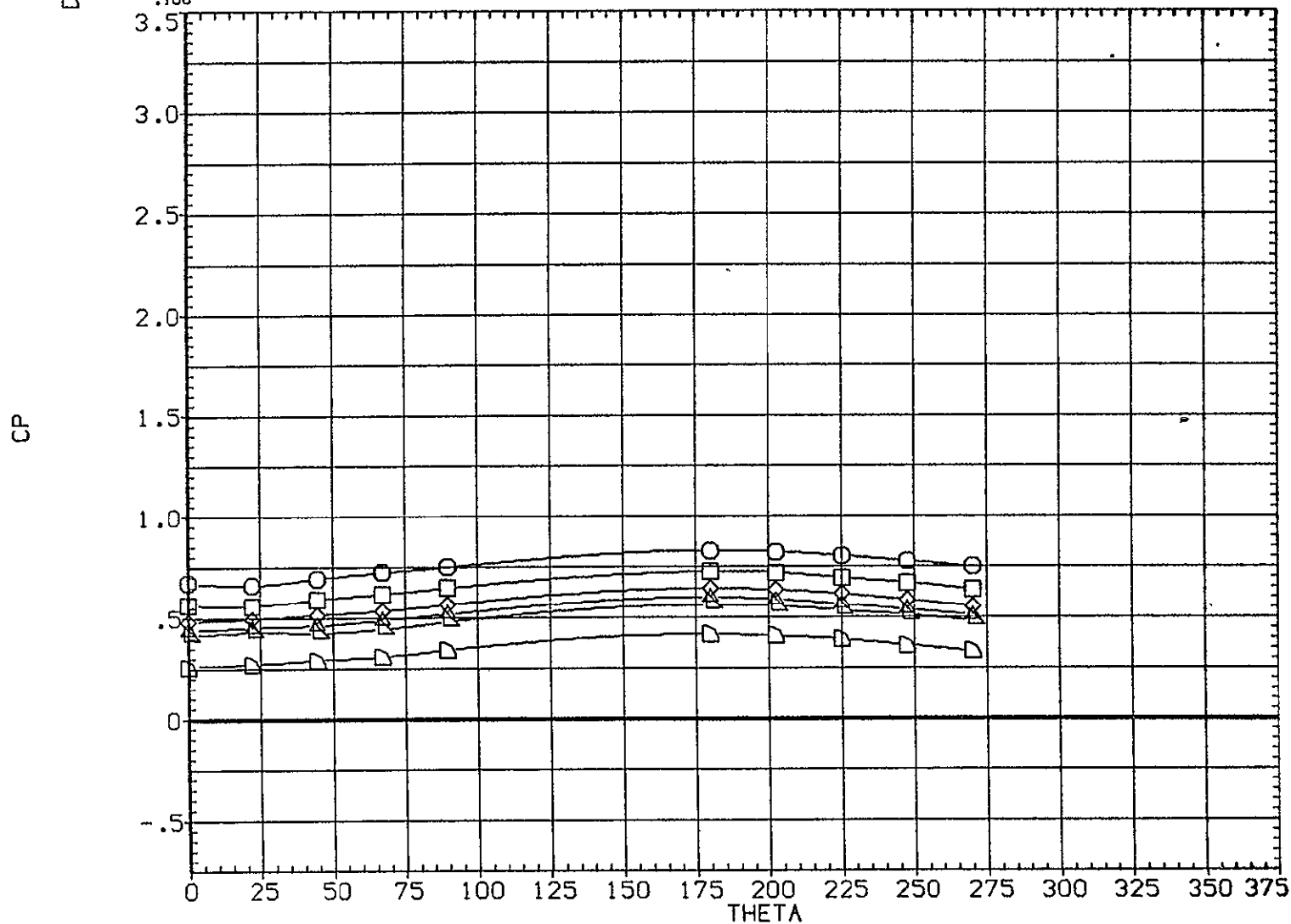


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

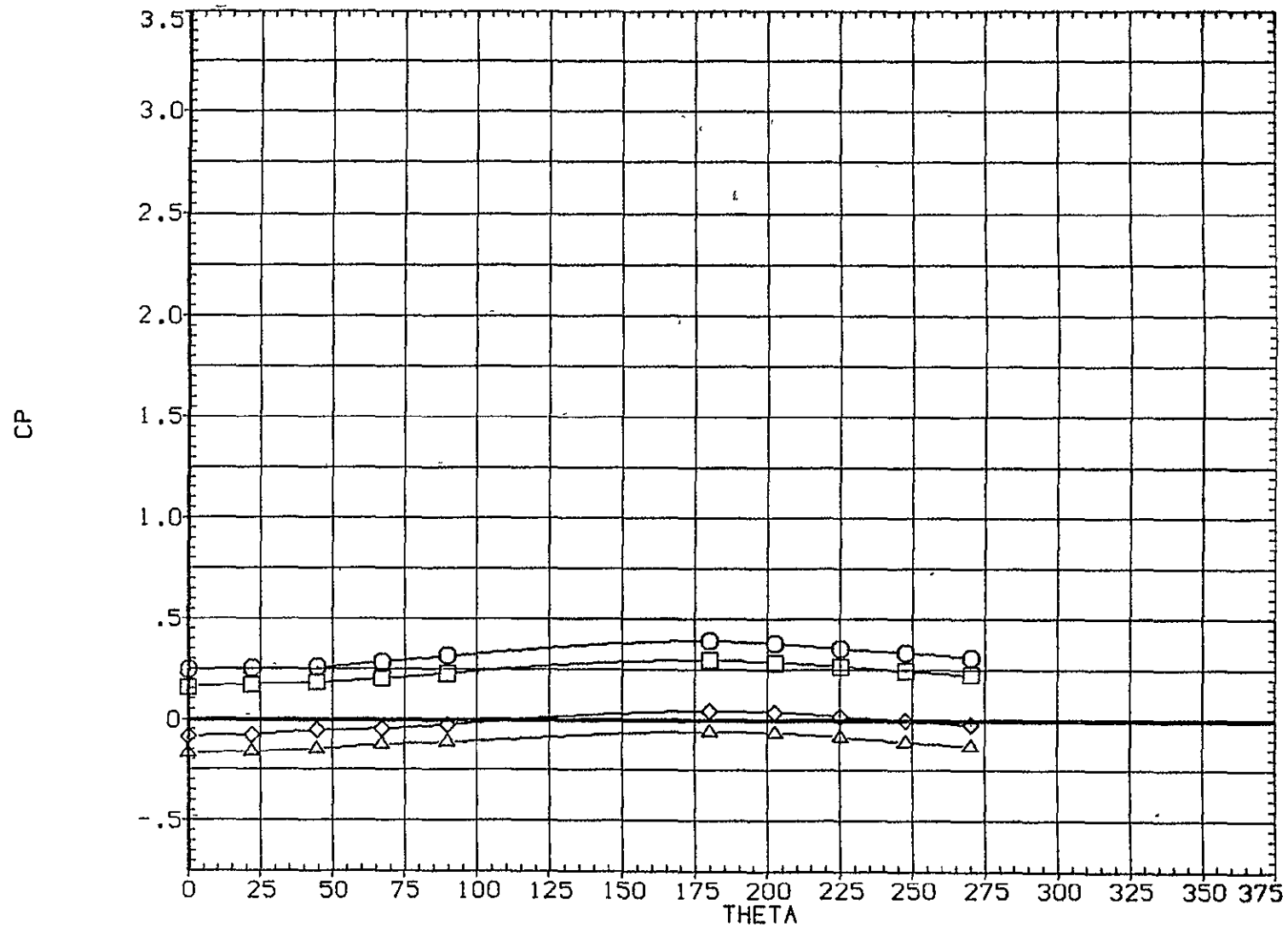
(B1G009)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	2.980	1.195			
□	.068					
◇	.077					
△	.085					
▽	.093					
◁	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	2.980	1.195			
□	.131					
◇	.167					
△	.185					

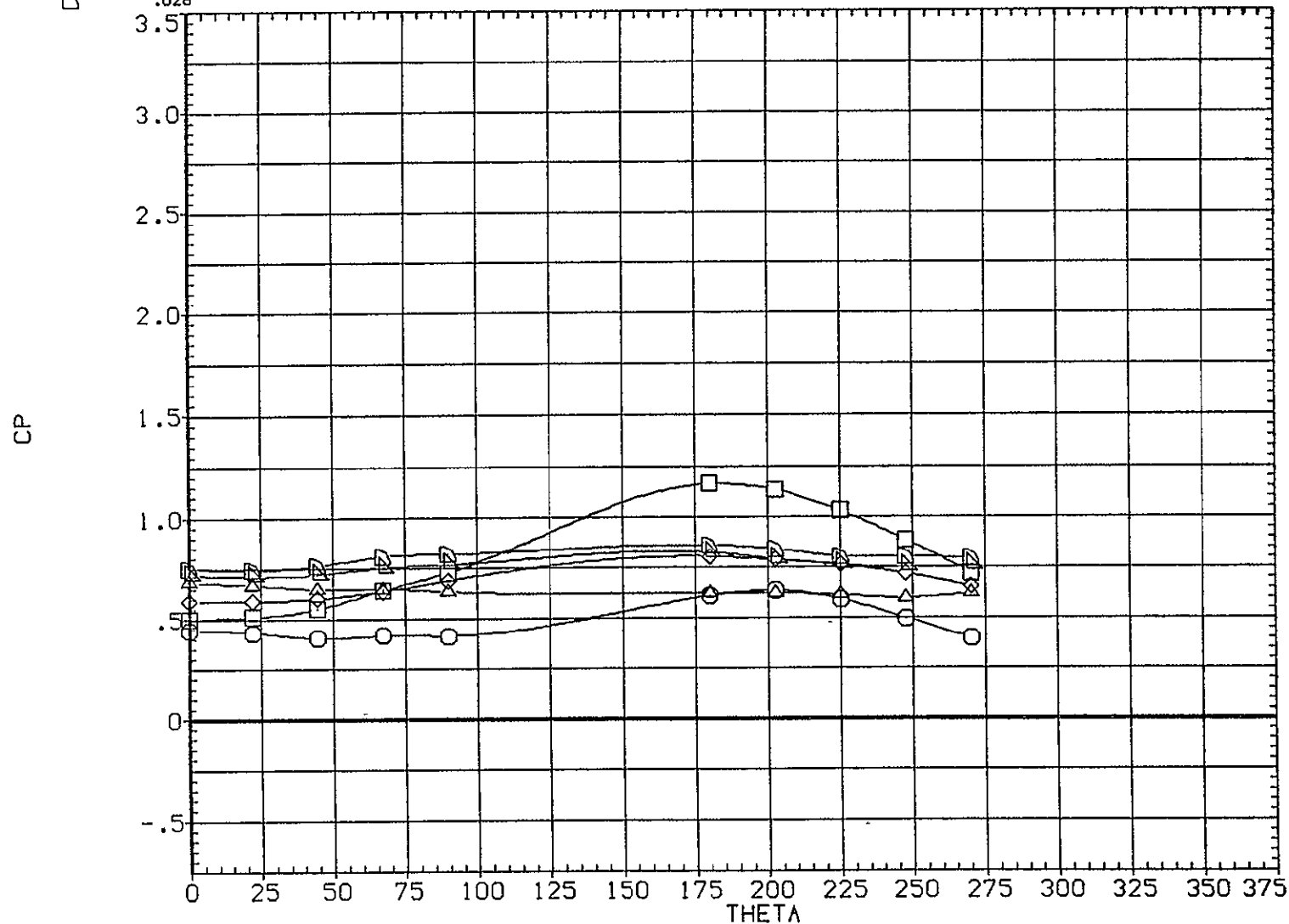


EFFECT OF RADIAL LOCATION ON PRESSURE

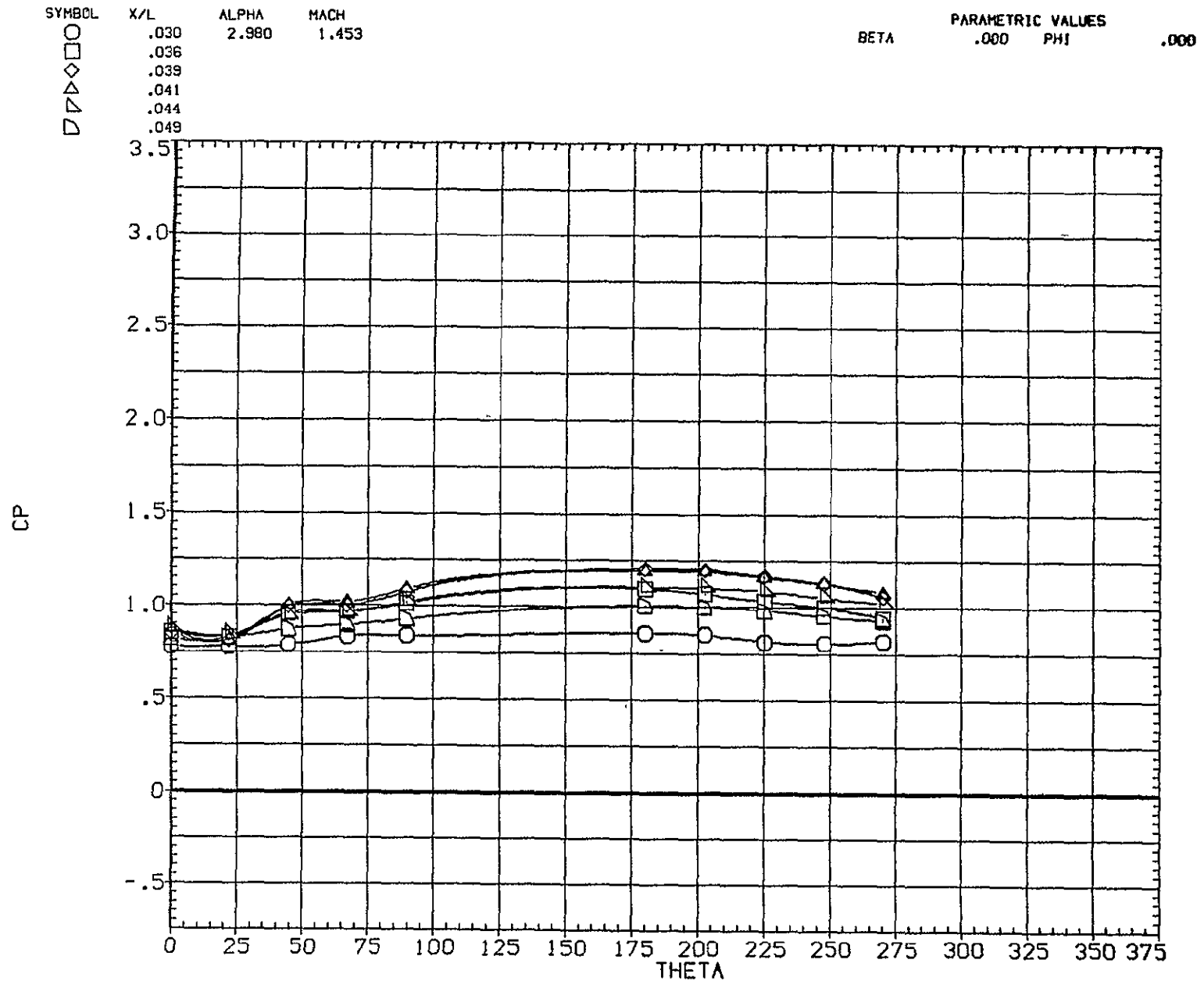
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G009)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	2.980	1.453			
□	.018					
◇	.020					
△	.022					
▽	.025					
◁	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

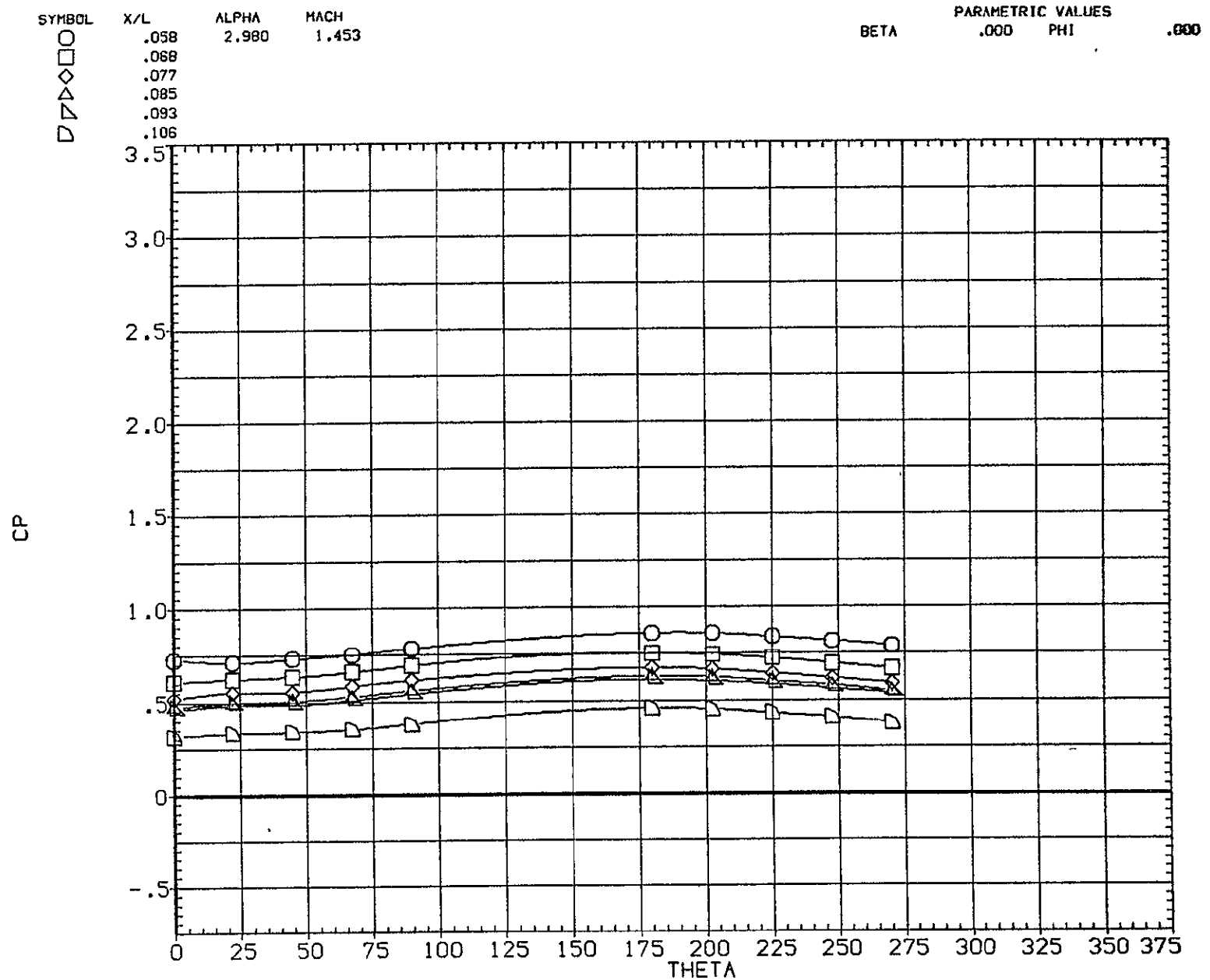


EFFECT OF RADIAL LOCATION ON PRESSURE



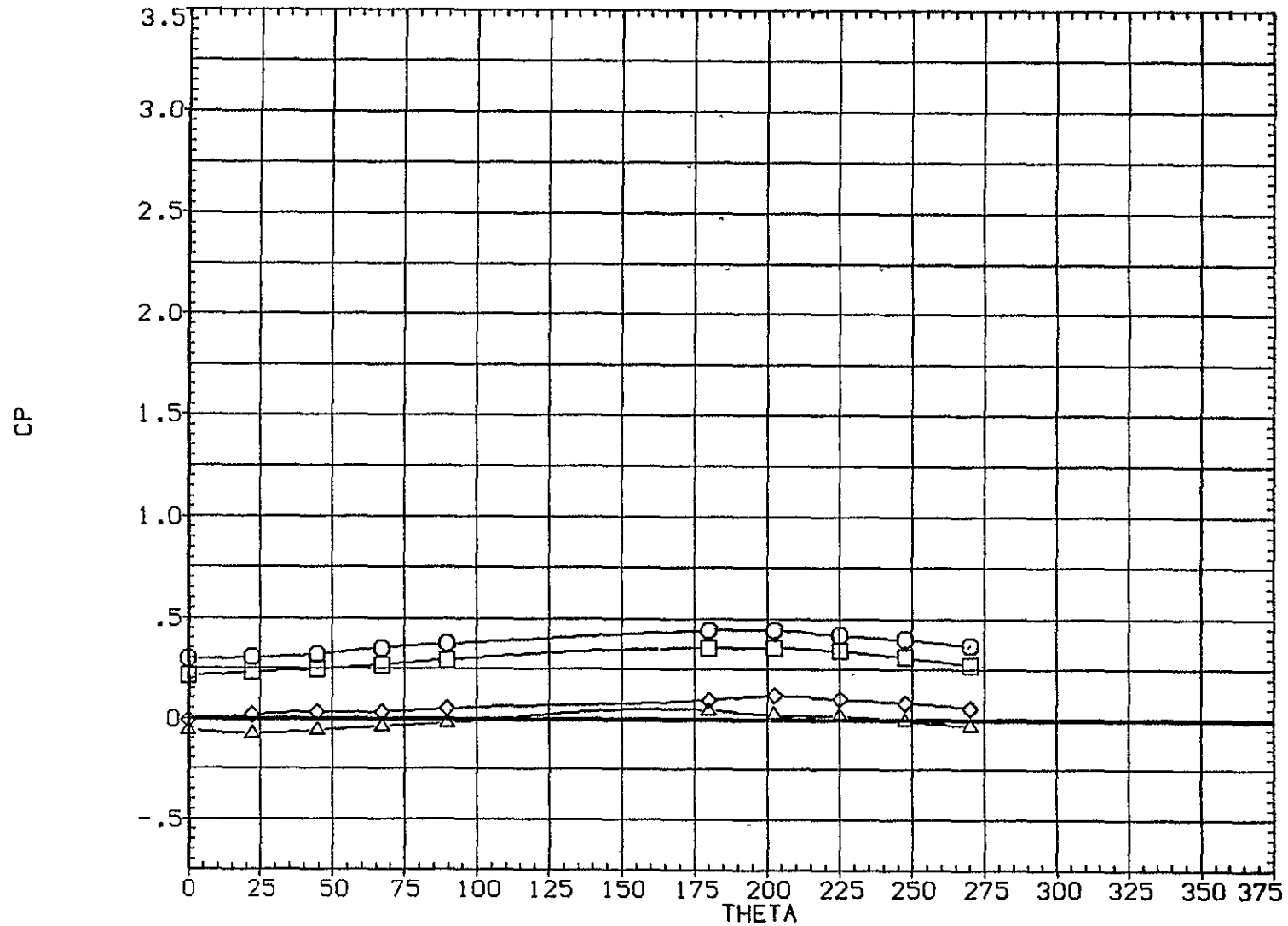
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G009)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	2.980	1.453			
□	.131					
◇	.167					
△	.185					

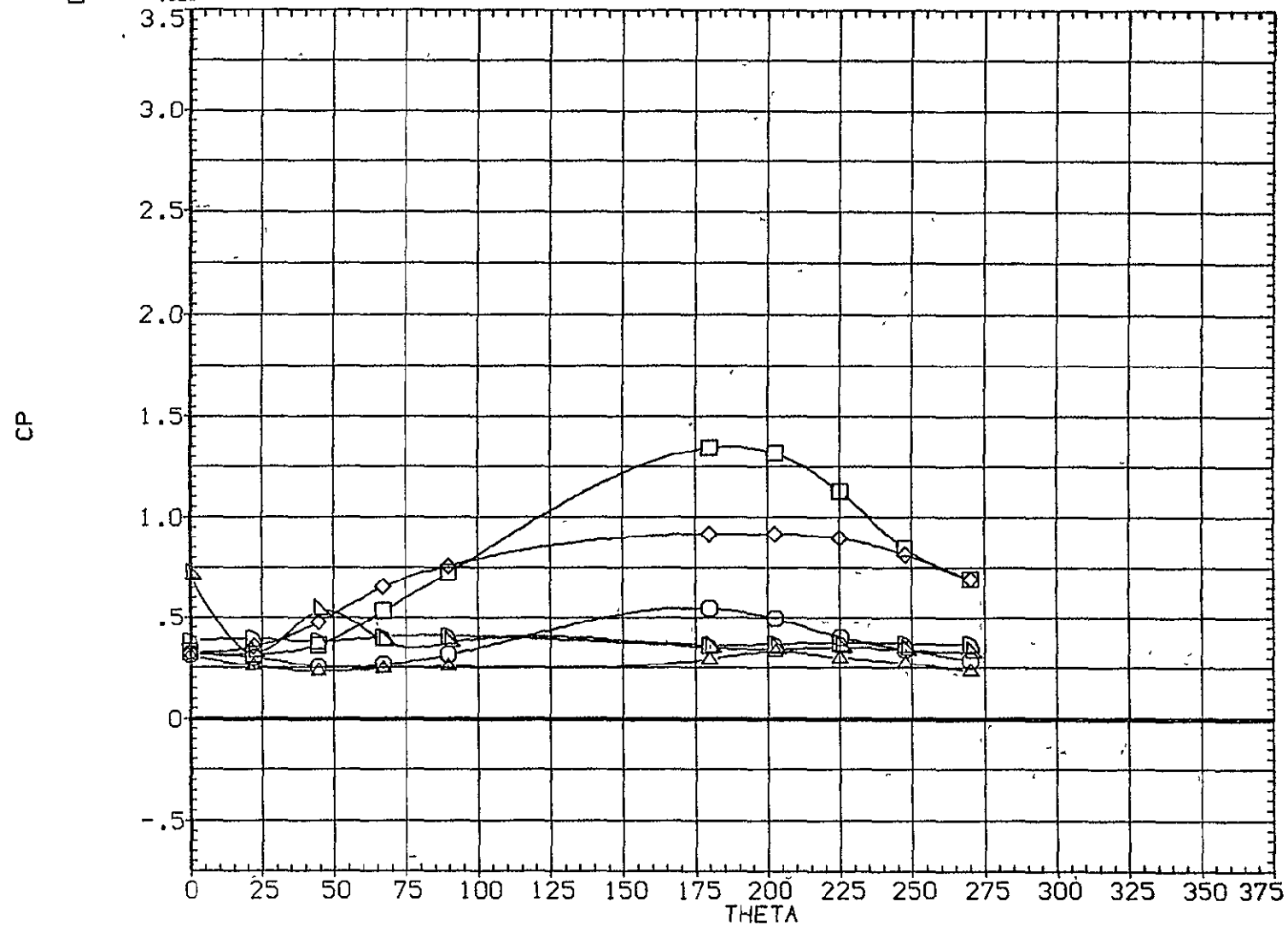


EFFECT OF RADIAL LOCATION ON PRESSURE

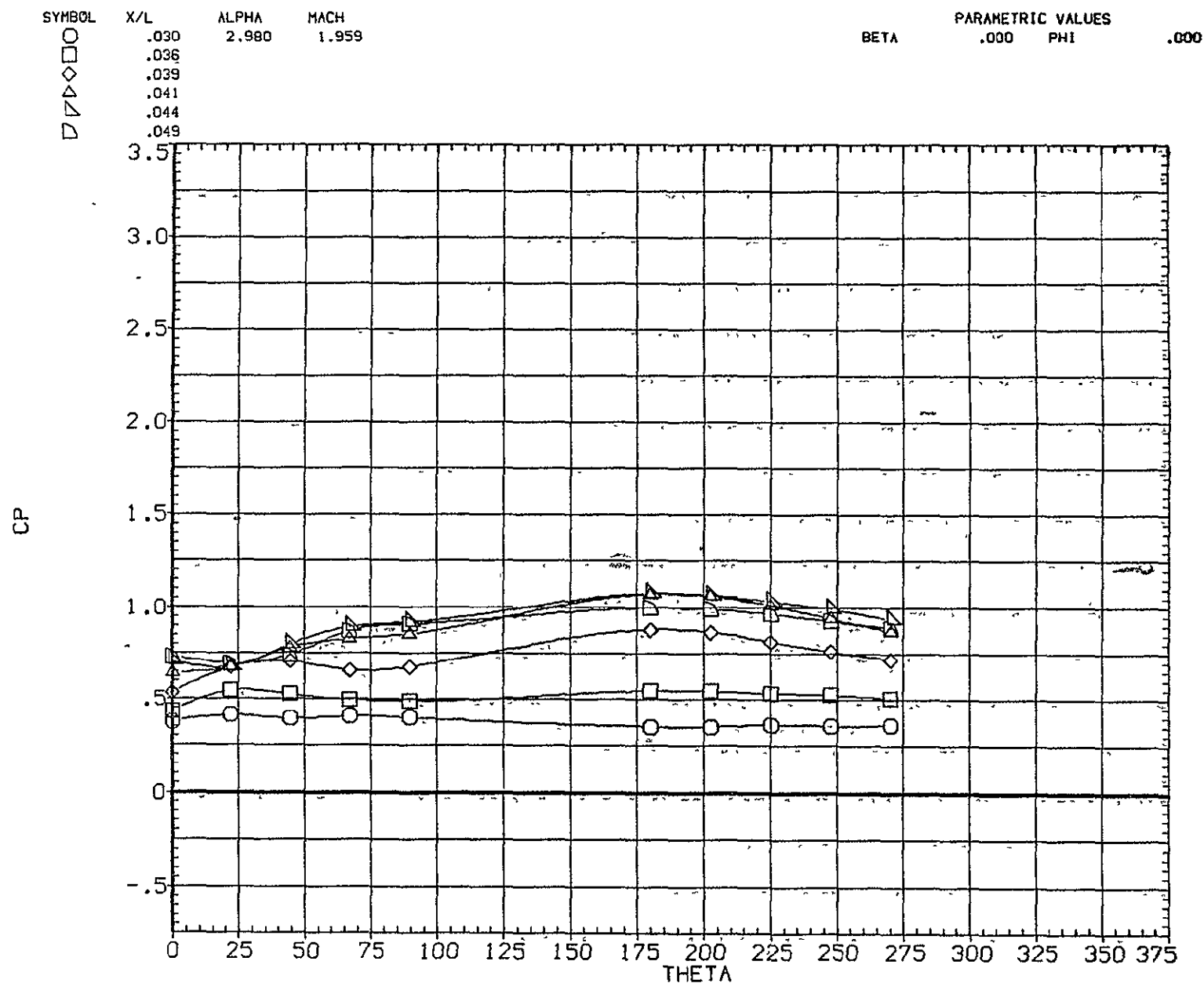
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G009)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	2.980	1.959	.000		.000
□	.018					
◇	.020					
△	.022					
▽	.025					
◊	.028					



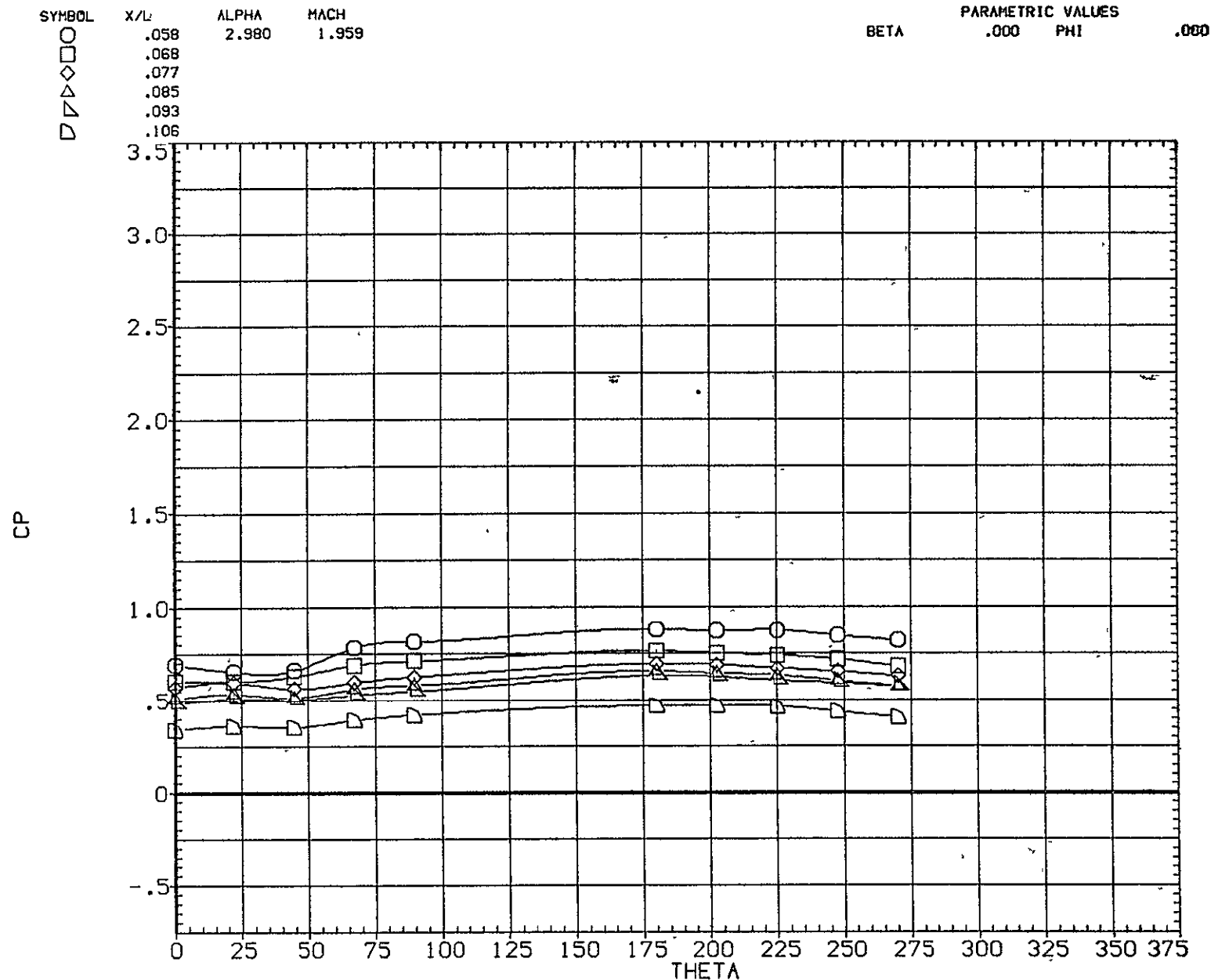
EFFECT OF RADIAL LOCATION ON PRESSURE



EFFECT OF RADIAL LOCATION ON PRESSURE

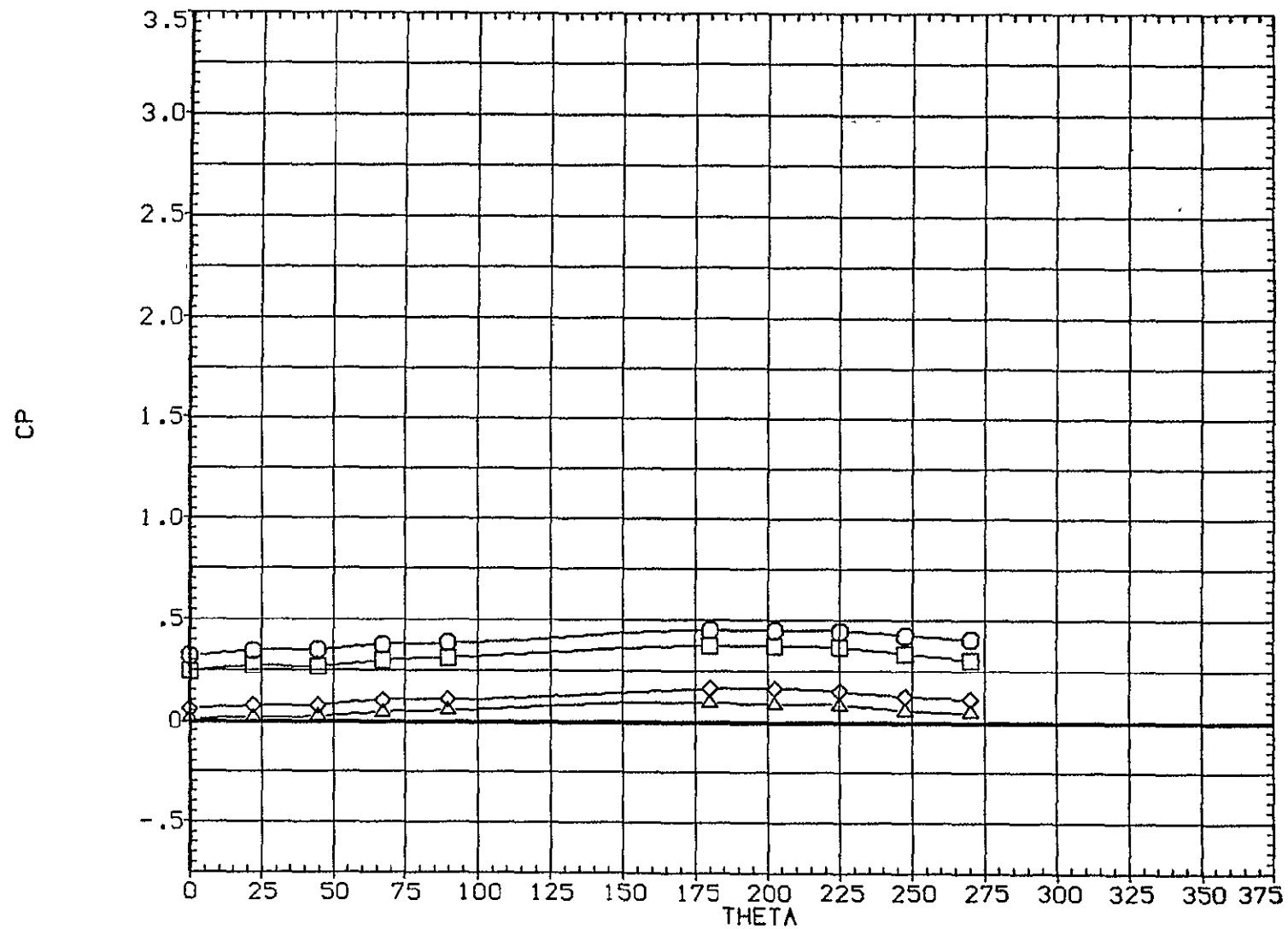
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G009)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	2.980	1.959				
□	.131				.000		
◇	.167						
△	.185						.000



EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16009)

SYMBOL

X/L

ALPHA

MACH

BETA

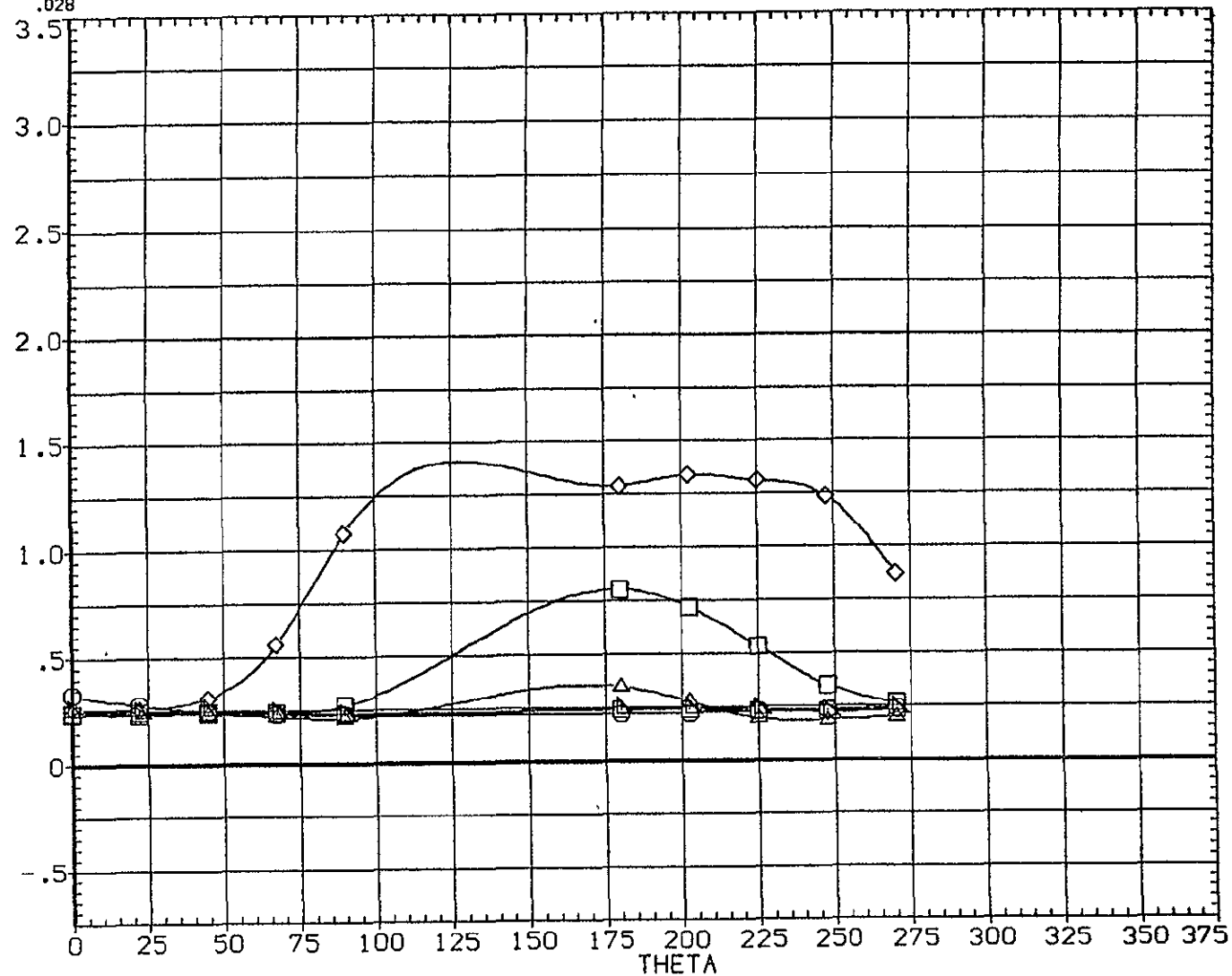
PARAMETRIC VALUES

.000

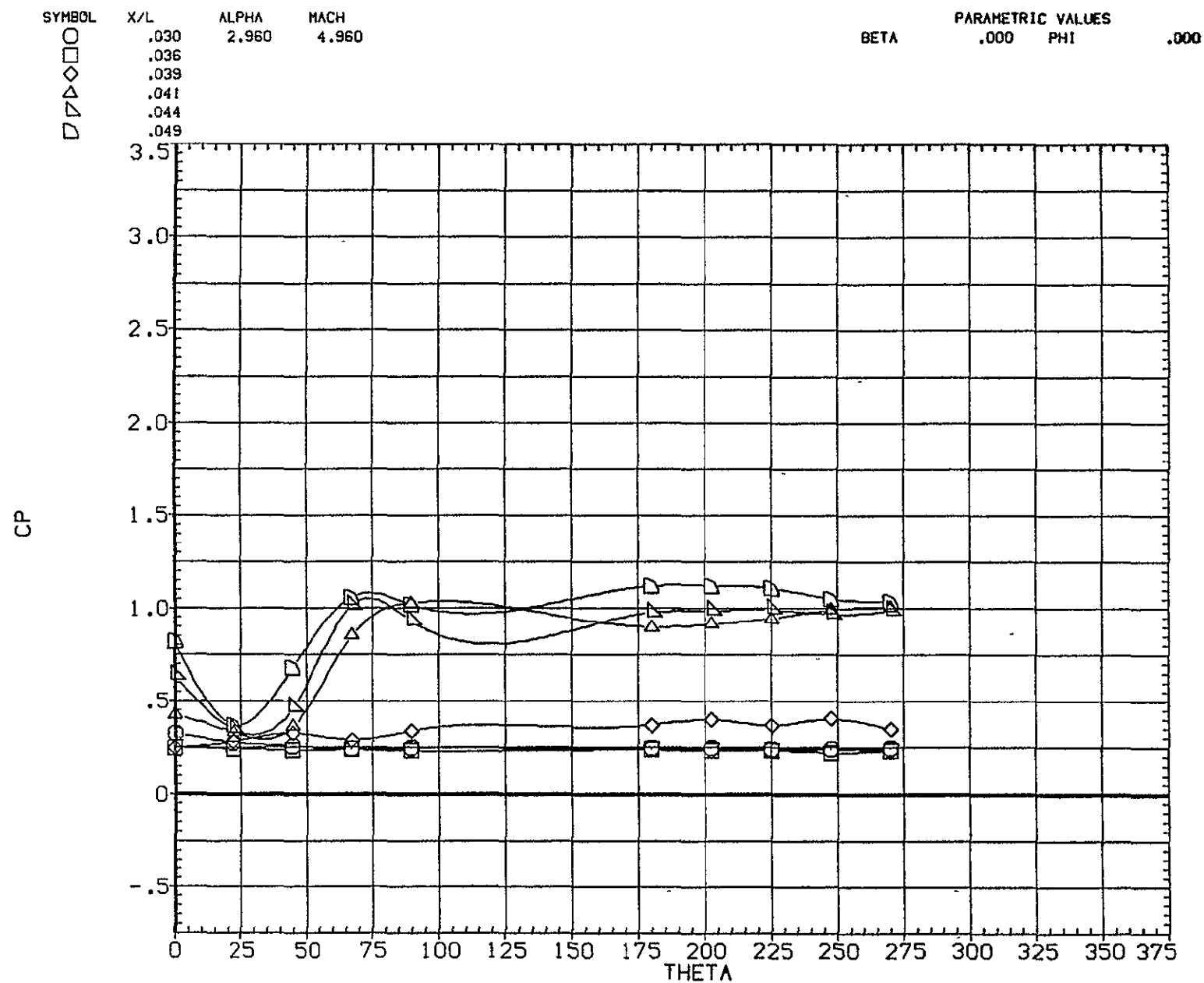
PHI

.000

CP



EFFECT OF RADIAL LOCATION ON PRESSURE

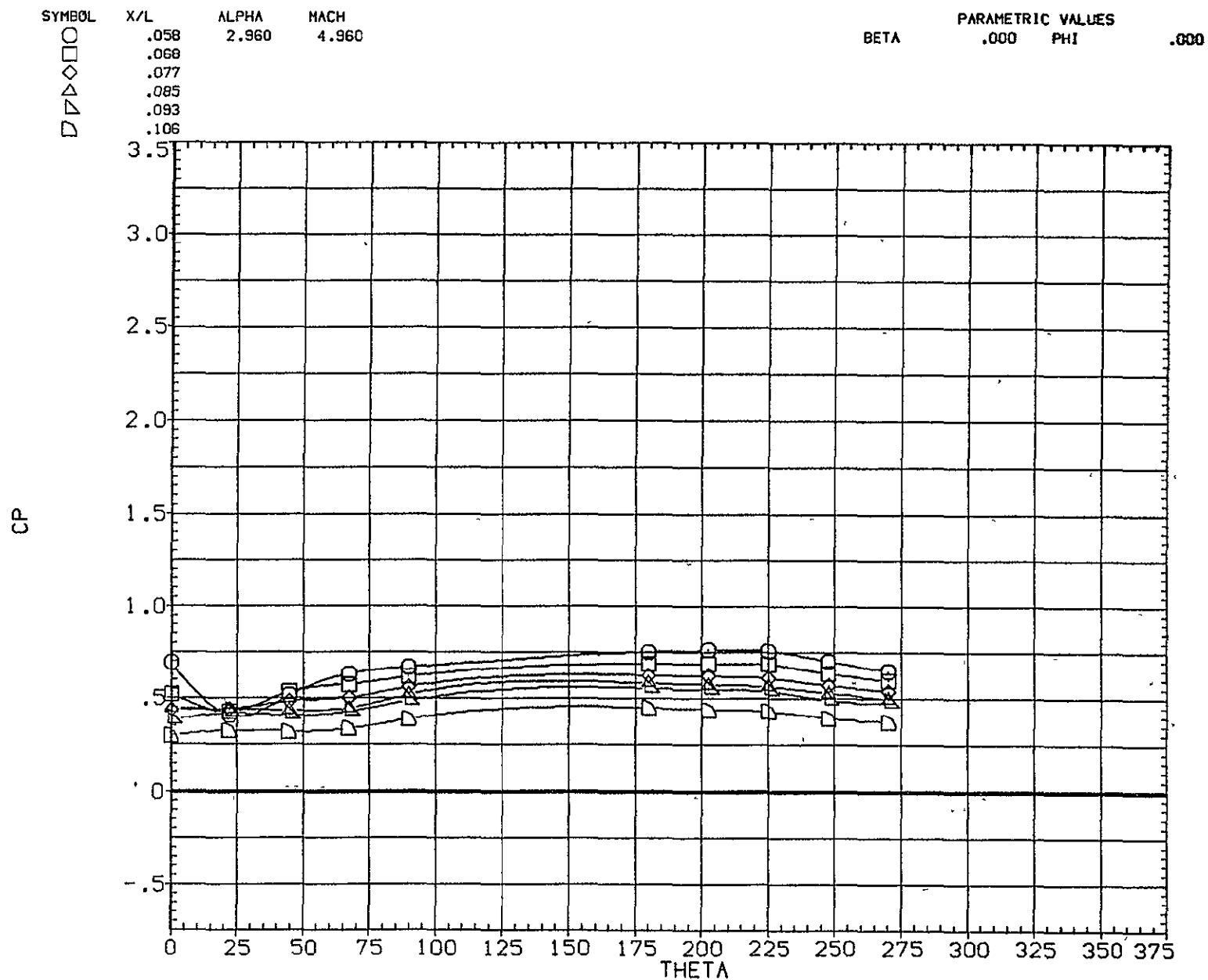


EFFECT OF RADIAL LOCATION ON PRESSURE



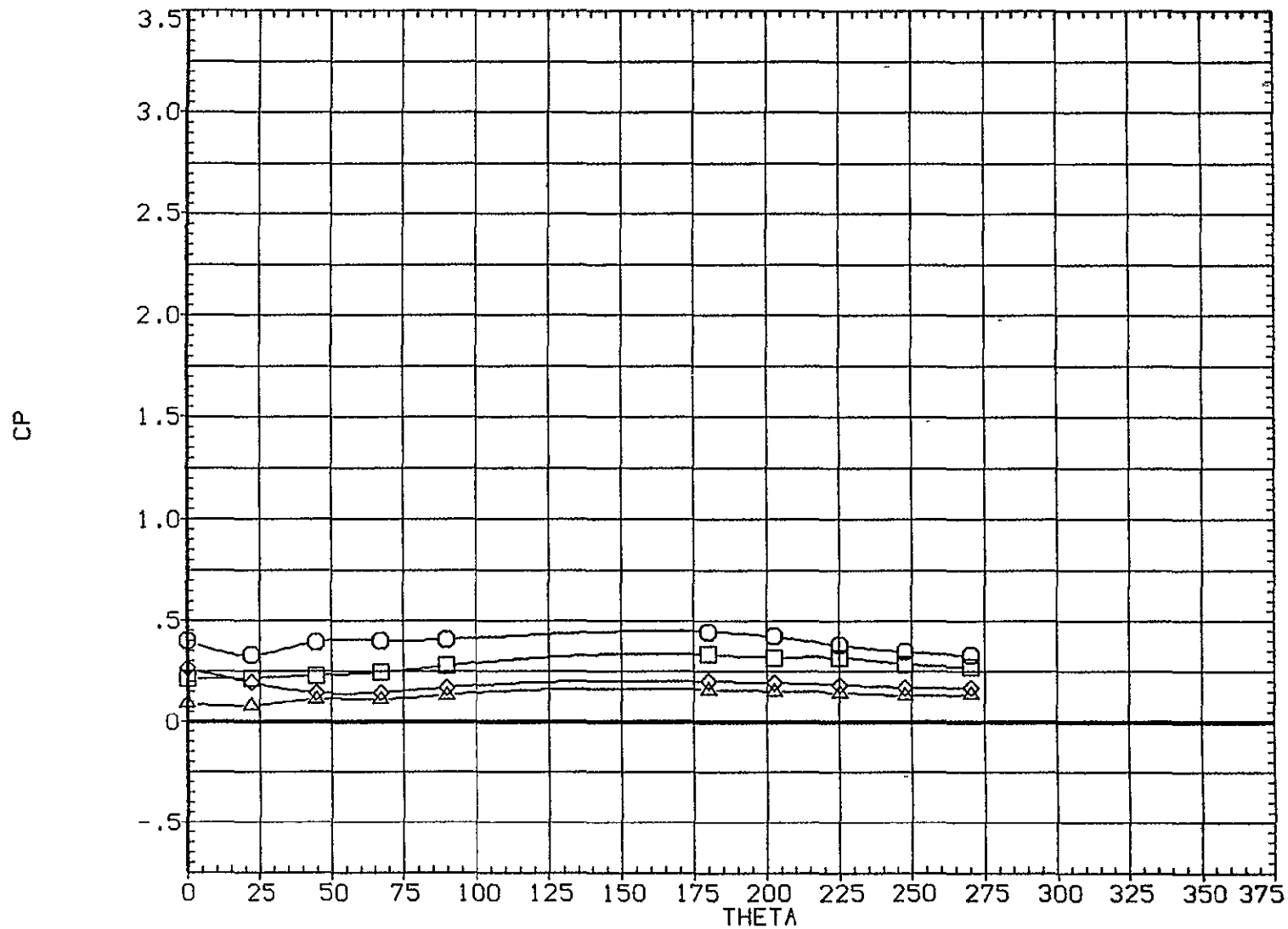
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G009)



EFFECT OF RADIAL LOCATION ON PRESSURE

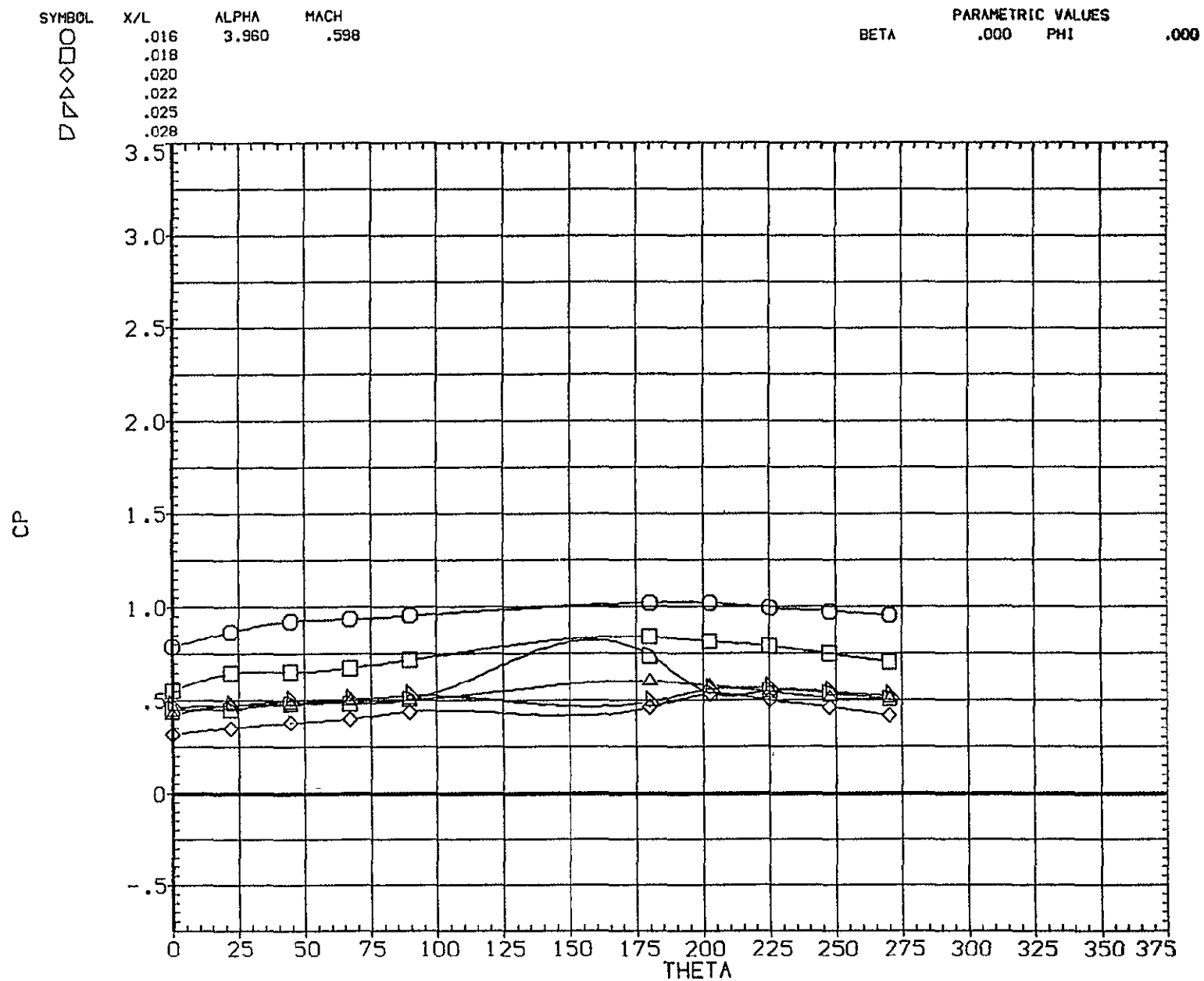
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	2.960	4.960			
□	.131					
◇	.167					
△	.185					



EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G010)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL

X/L

ALPHA

MACH

BETA

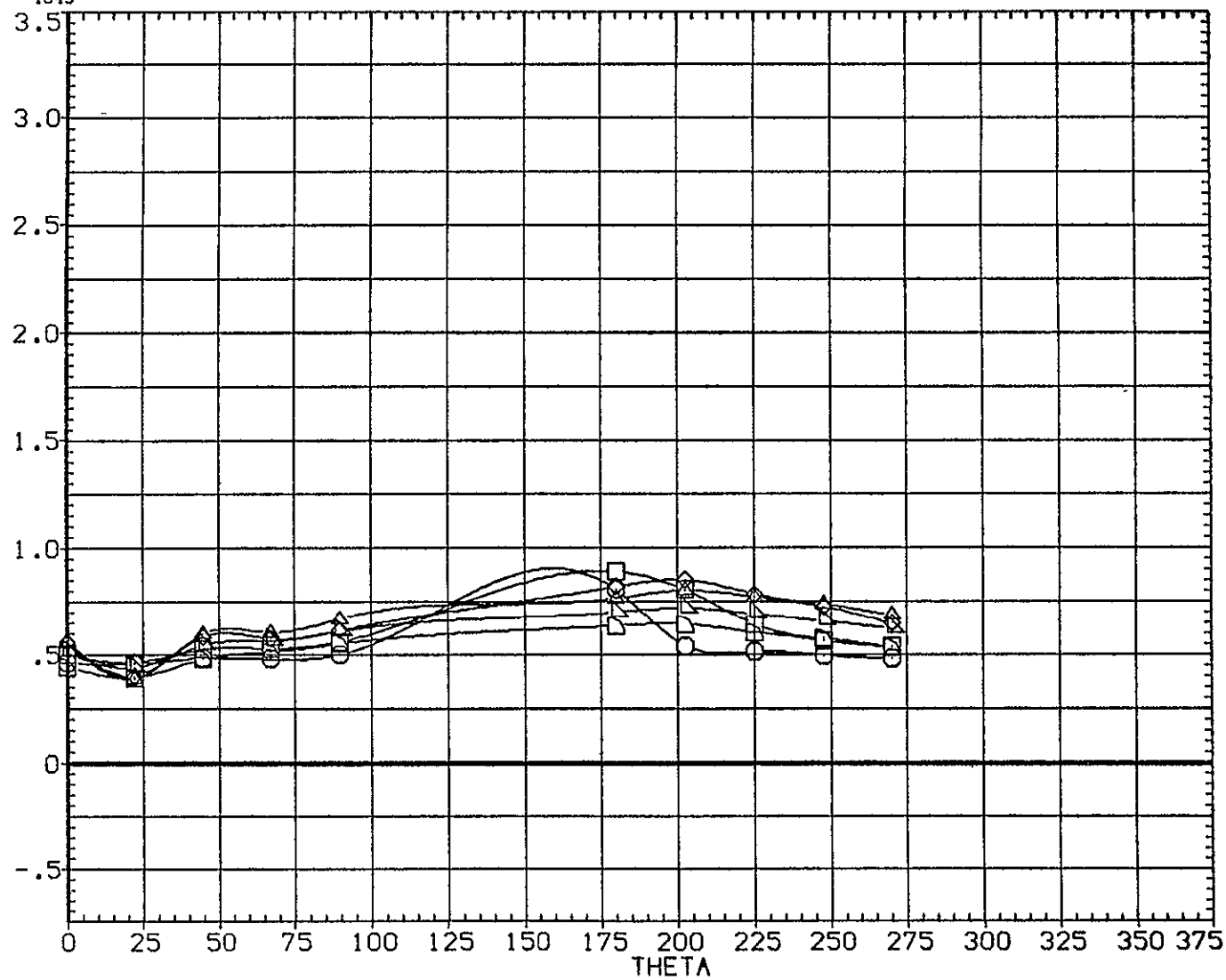
PARAMETRIC VALUES

.000

PHI

.000

CP



EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16010)

SYMBOL

X/L

ALPHA

MACH

BETA

PARAMETRIC VALUES

.000

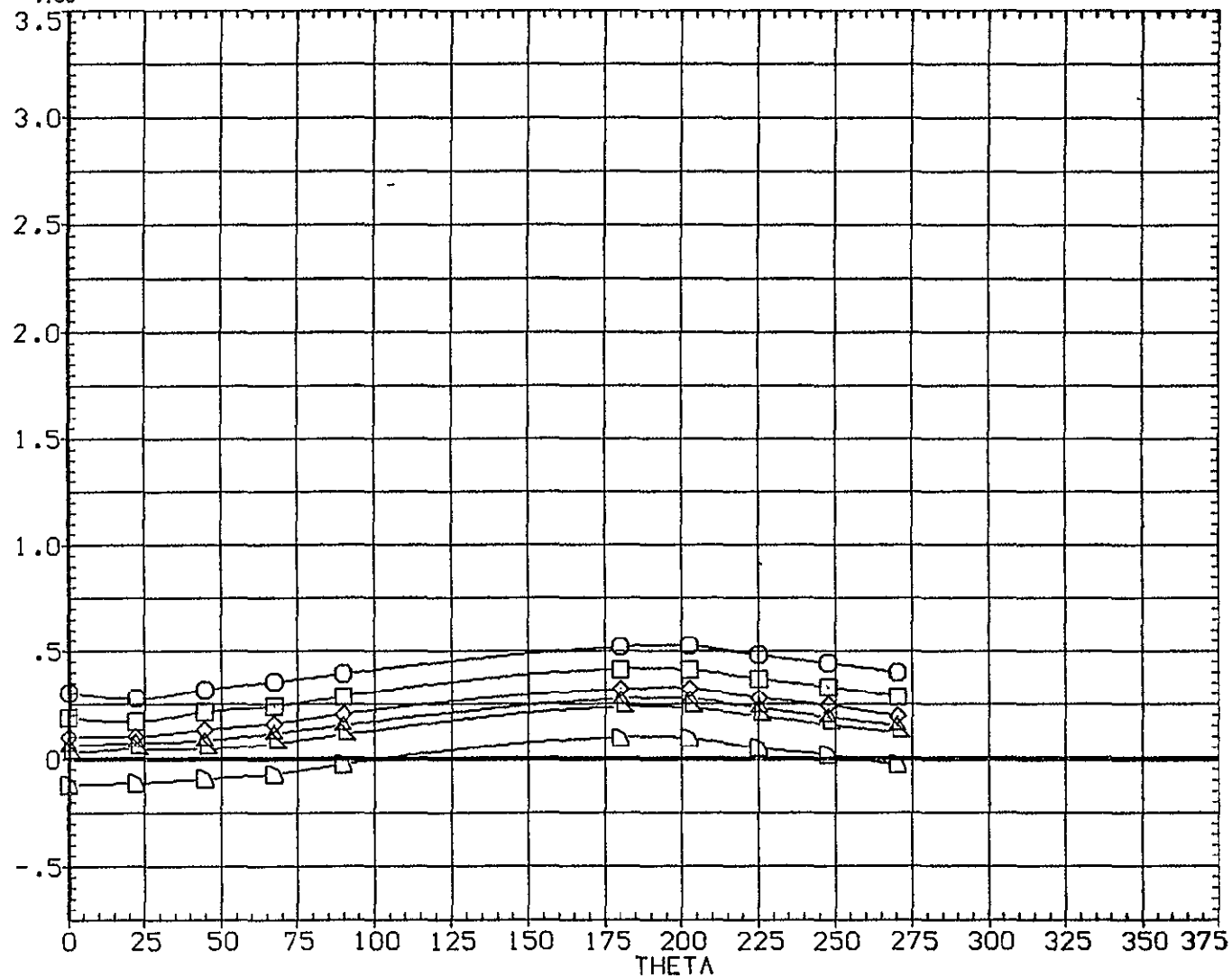
PHI

.000

○  
□  
◇  
△  
▽  
▷

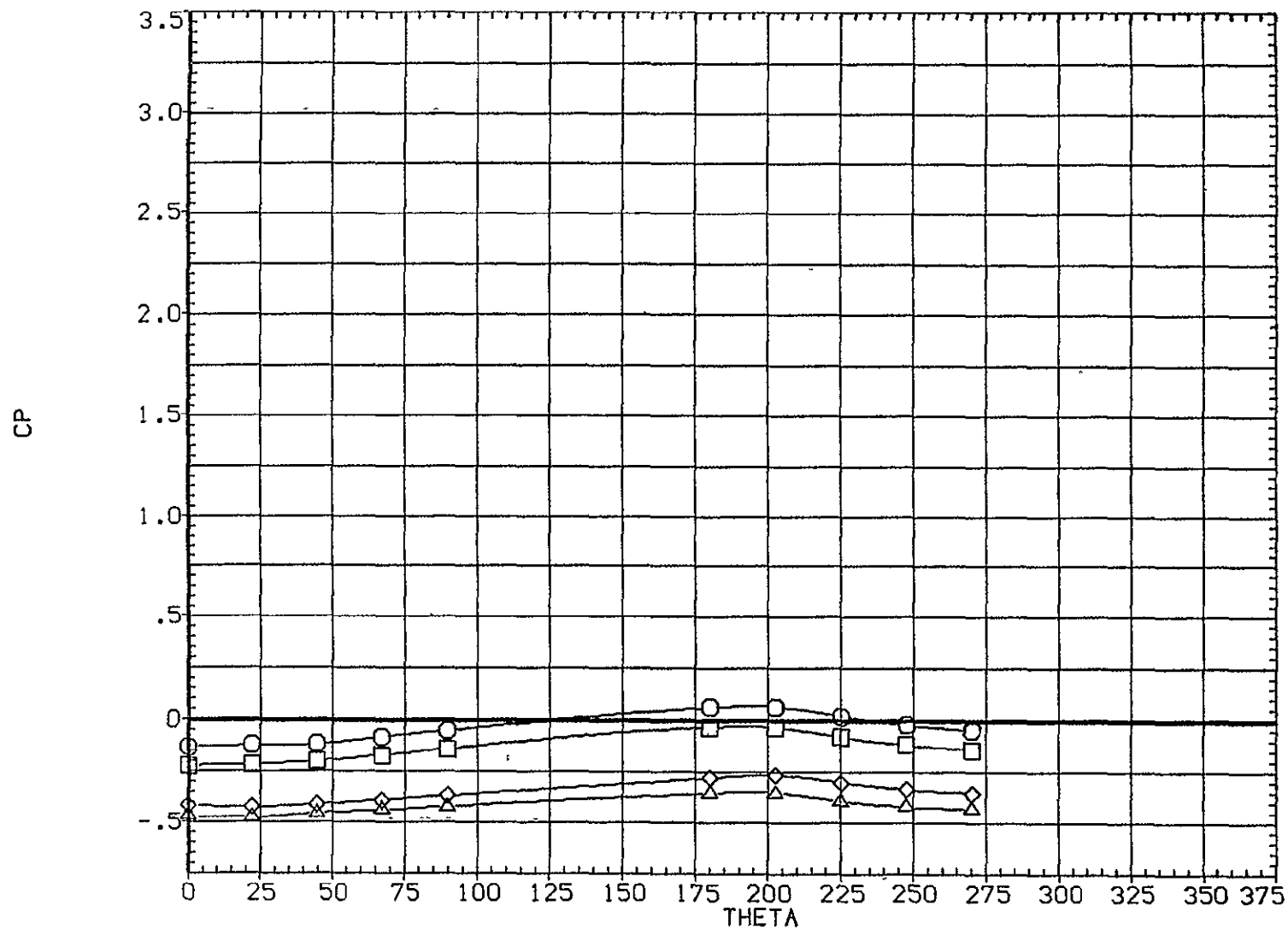
.058  
.068  
.077  
.085  
.093  
.106

CP



EFFECT OF RADIAL LOCATION ON PRESSURE

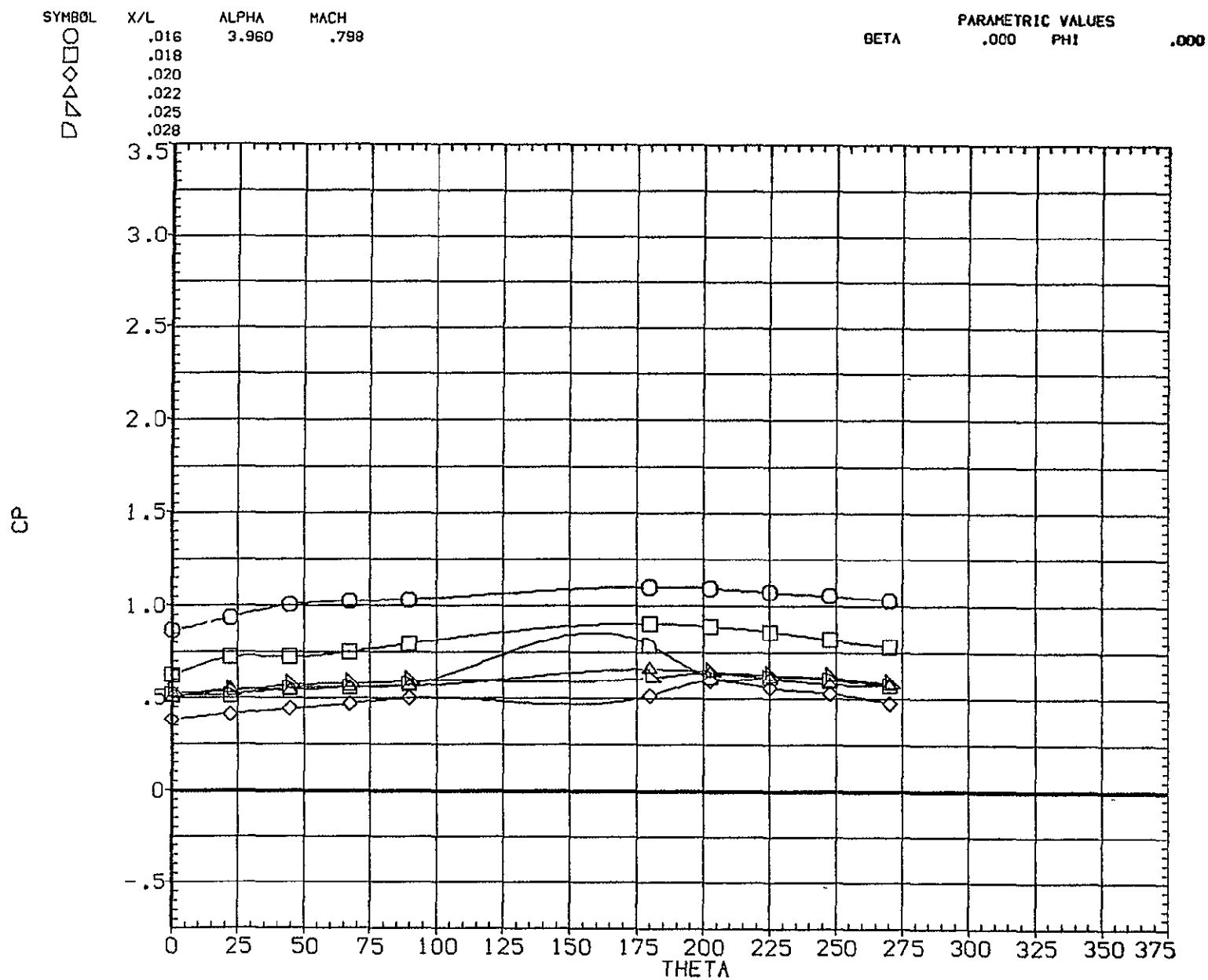
SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.118	3.960	.598		.000		.000
□	.131						
◇	.167						
△	.185						



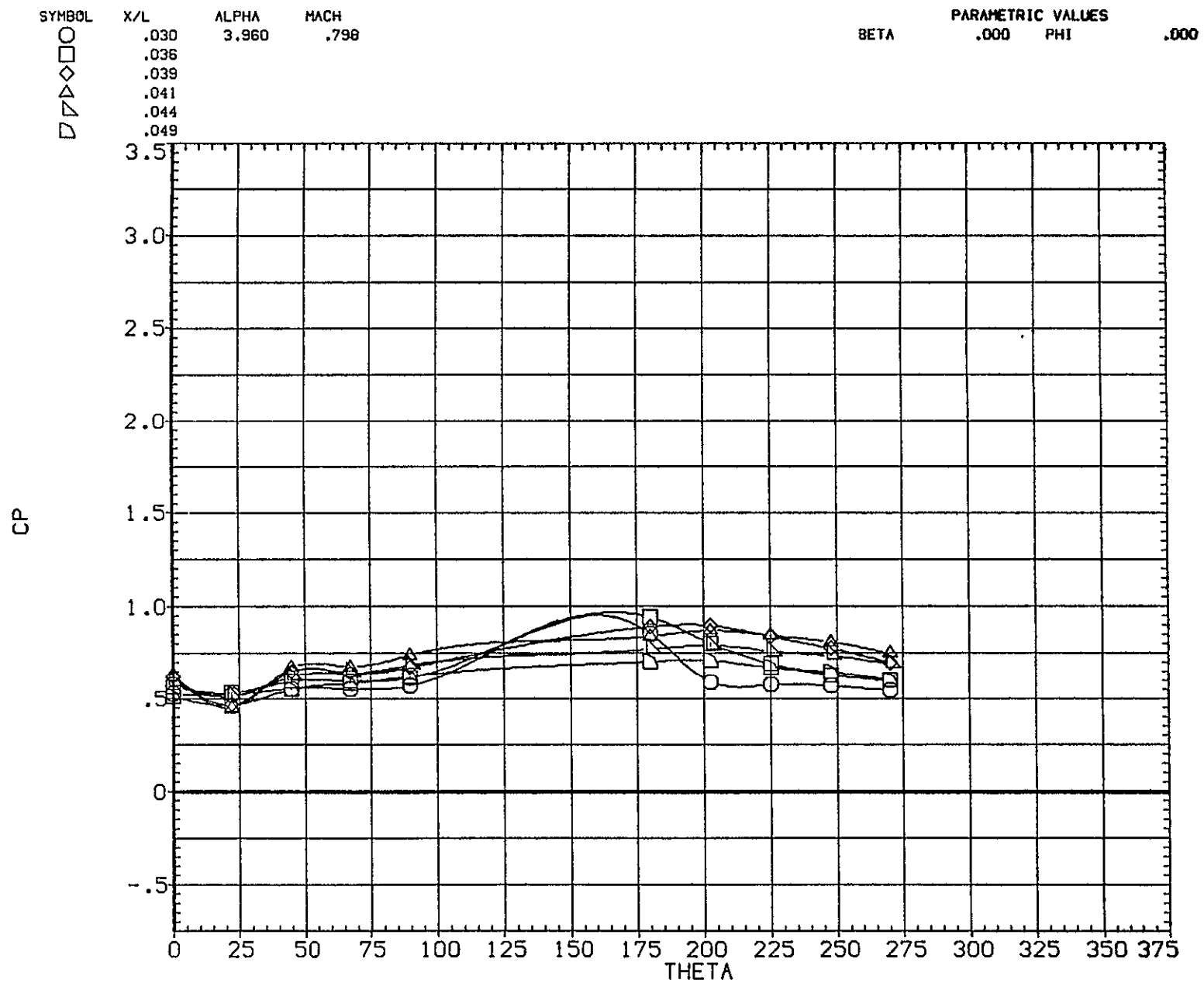
EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16010)



EFFECT OF RADIAL LOCATION ON PRESSURE



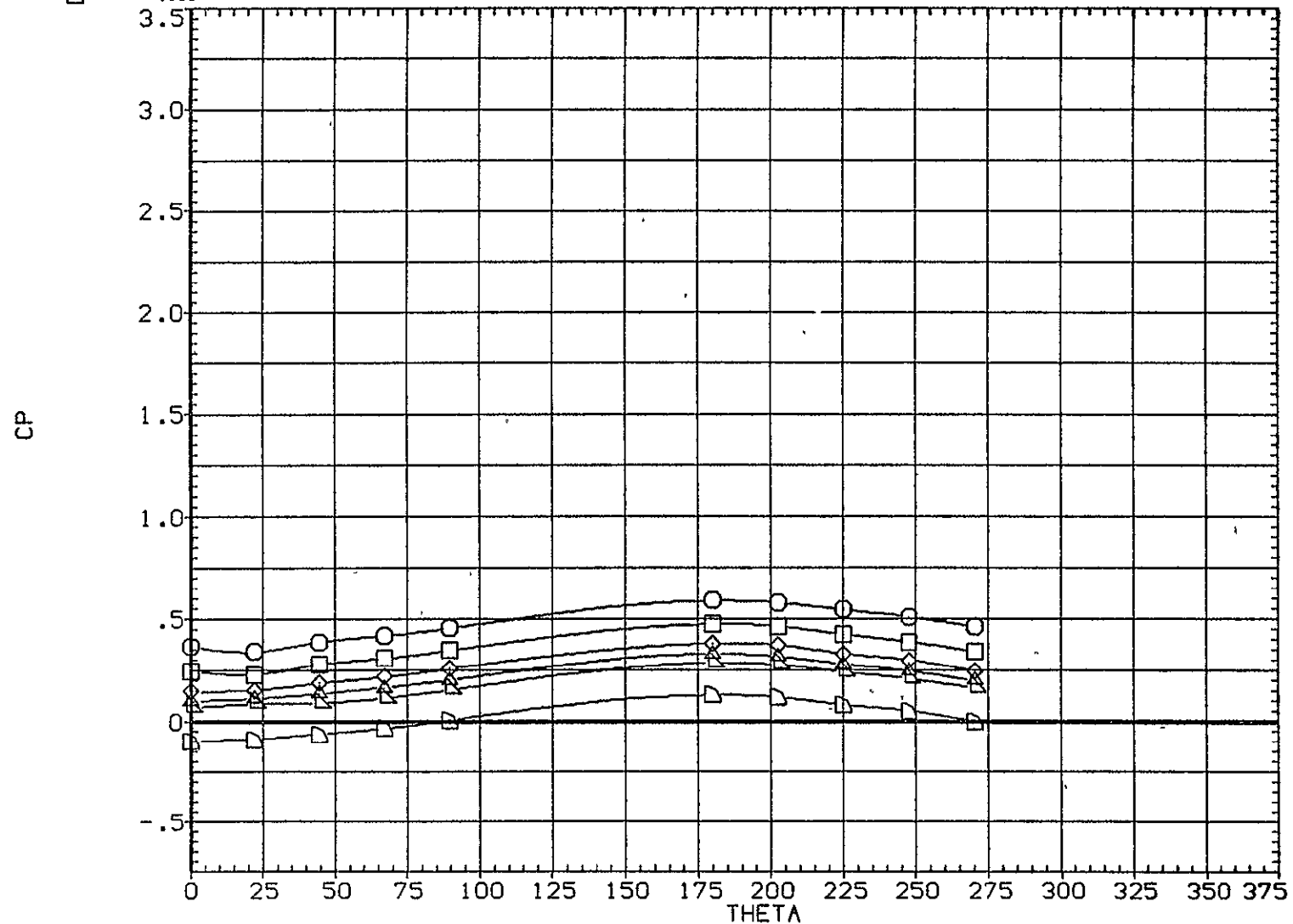
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

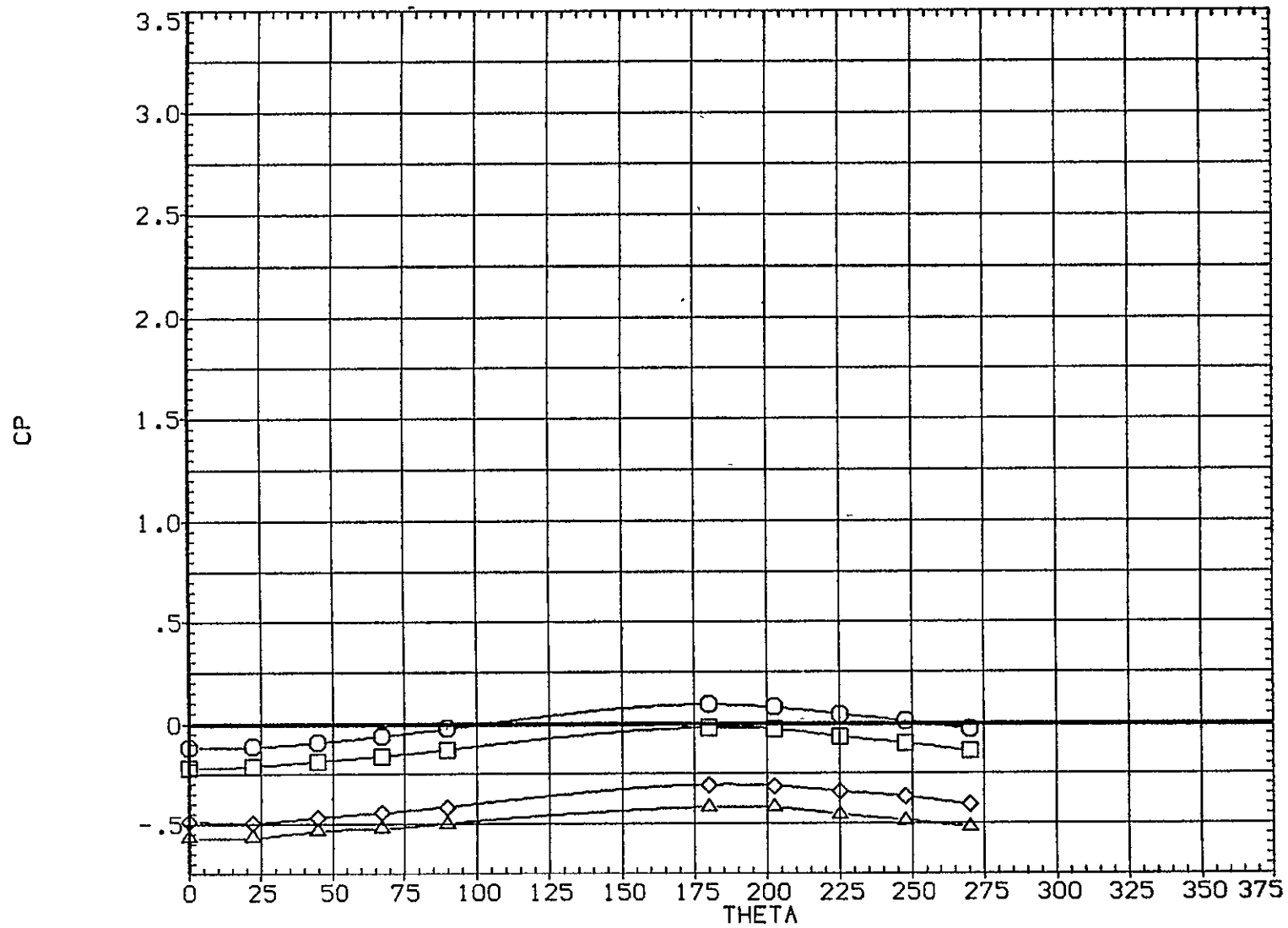
(B1G010)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	3.960	.798			
□	.068					
◇	.077					
△	.085					
▽	.093					
◁	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

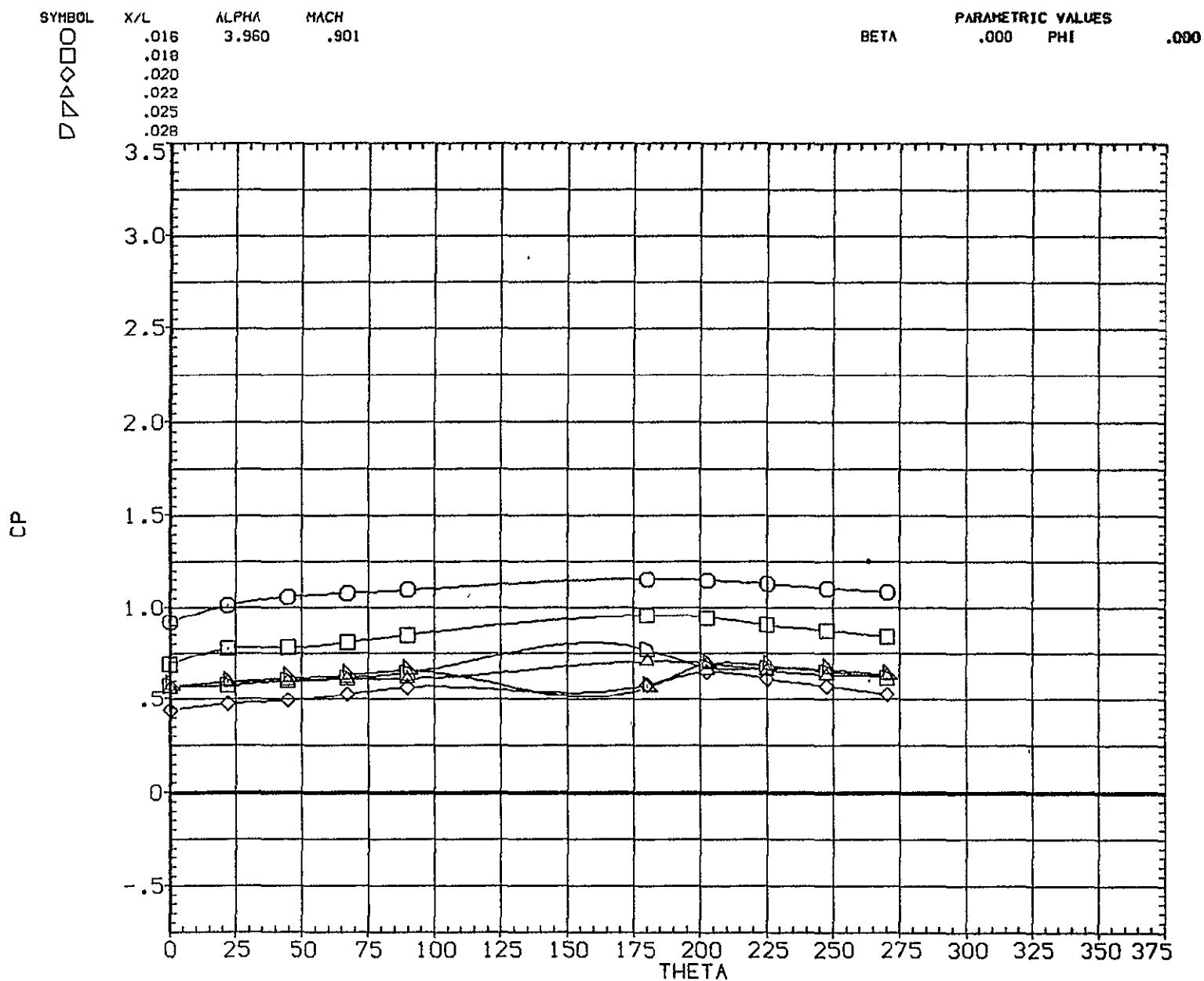
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES			
				BETA	PHI		
○	.118	3.960	.798				
□	.131						
◇	.167						
△	.185						



EFFECT OF RADIAL LOCATION ON PRESSURE

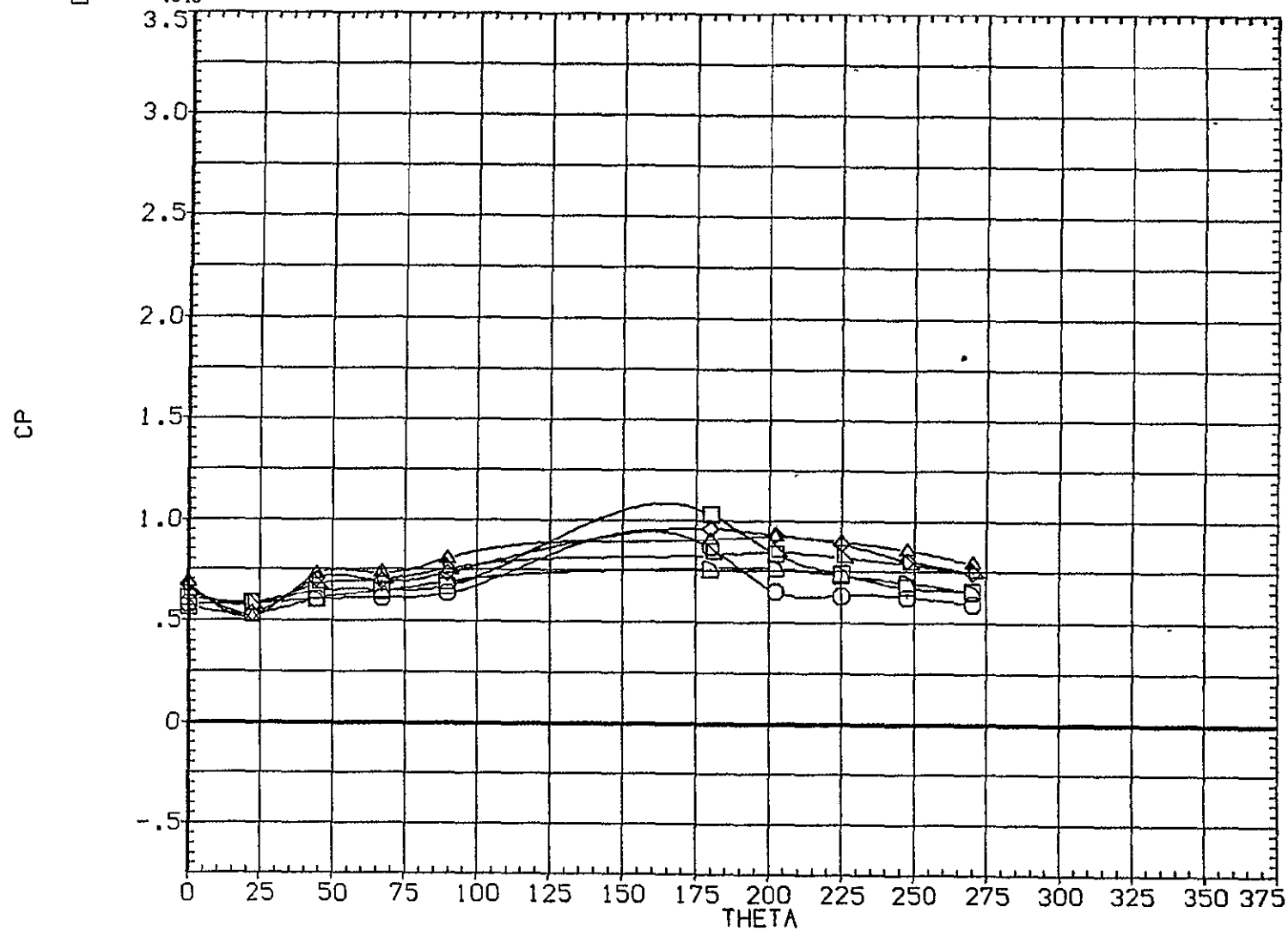
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16010)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	3.960	.901			
□	.036				.000	.000
◇	.039					
△	.041					
▽	.044					
◁	.049					

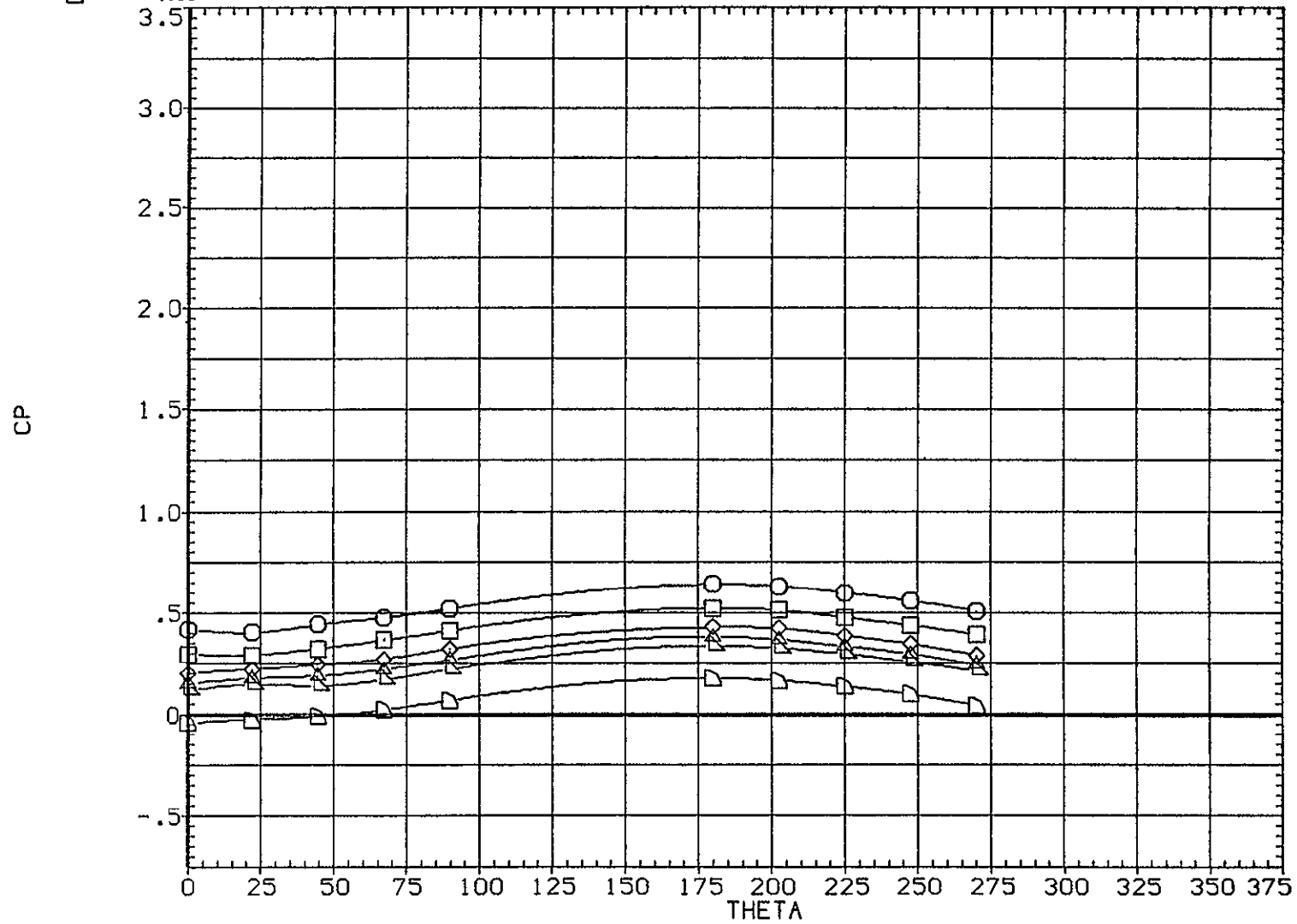


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G010)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	3.960	.901			
□	.068				.000	.000
◇	.077					
△	.085					
▽	.093					
◁	.106					



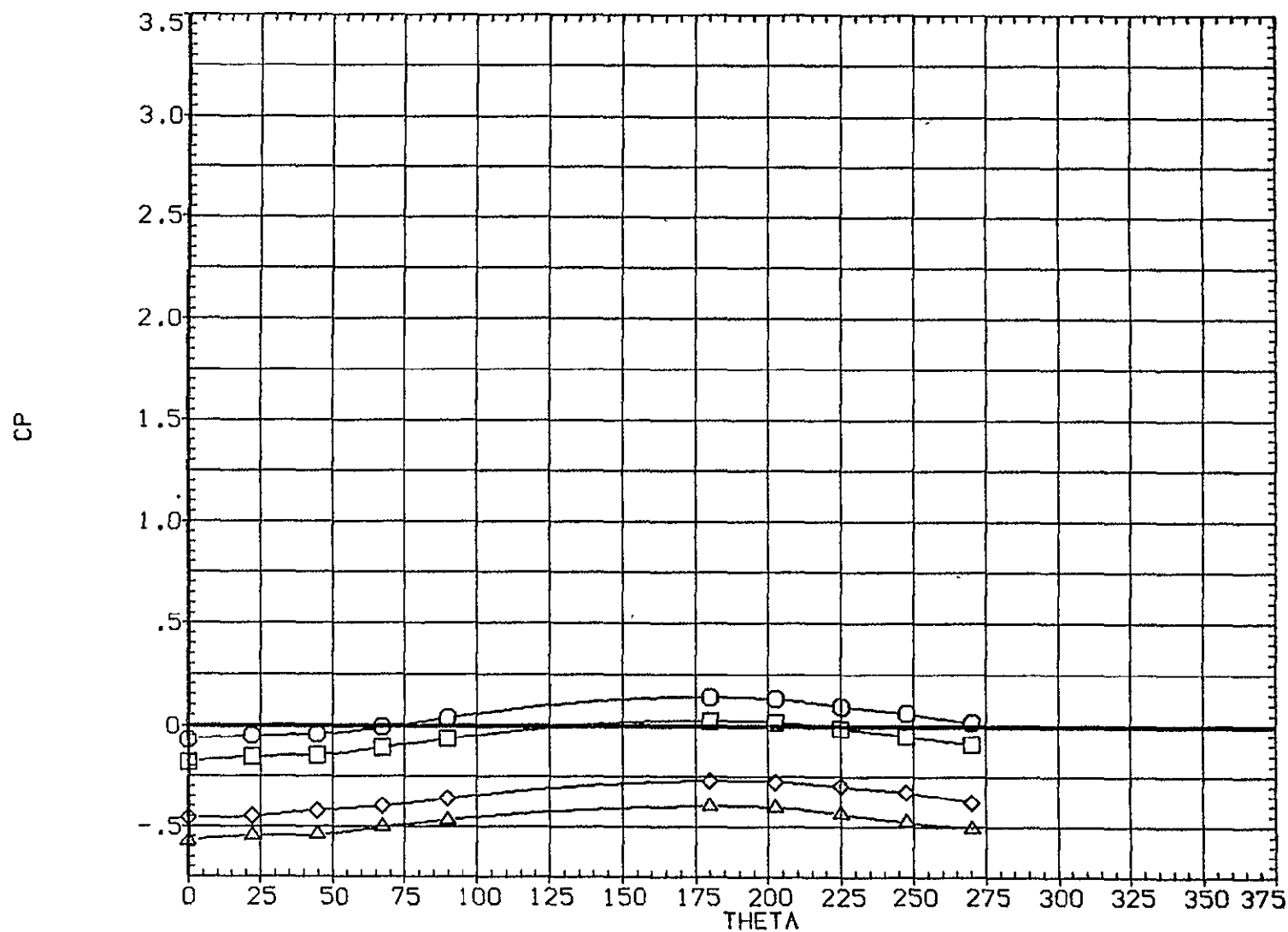
EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL  
○  
□  
◇  
△X/L  
.118  
.131  
.167  
.185ALPHA  
3.960MACH  
.901

BETA

PARAMETRIC VALUES  
.000 PHI

.000

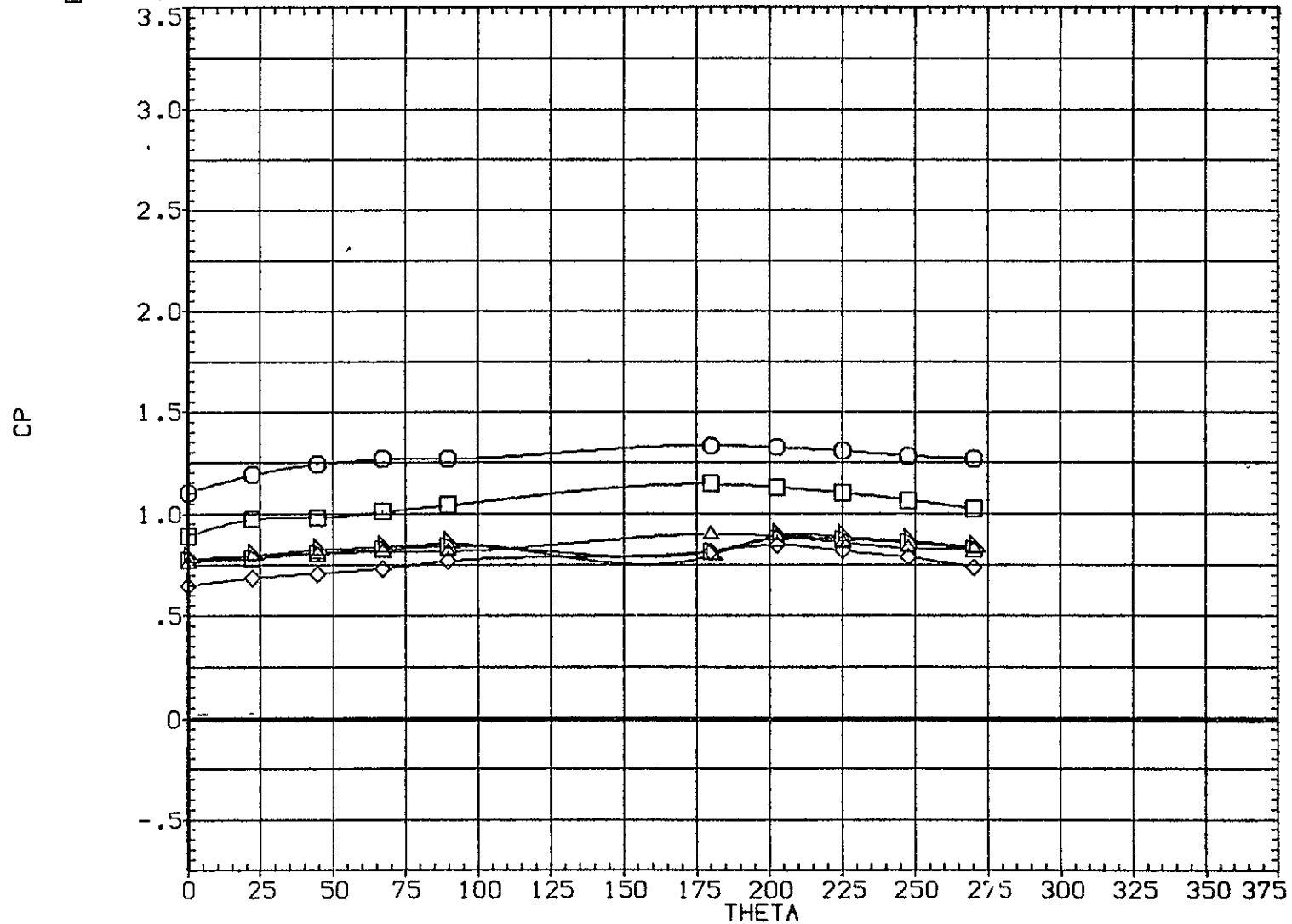


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

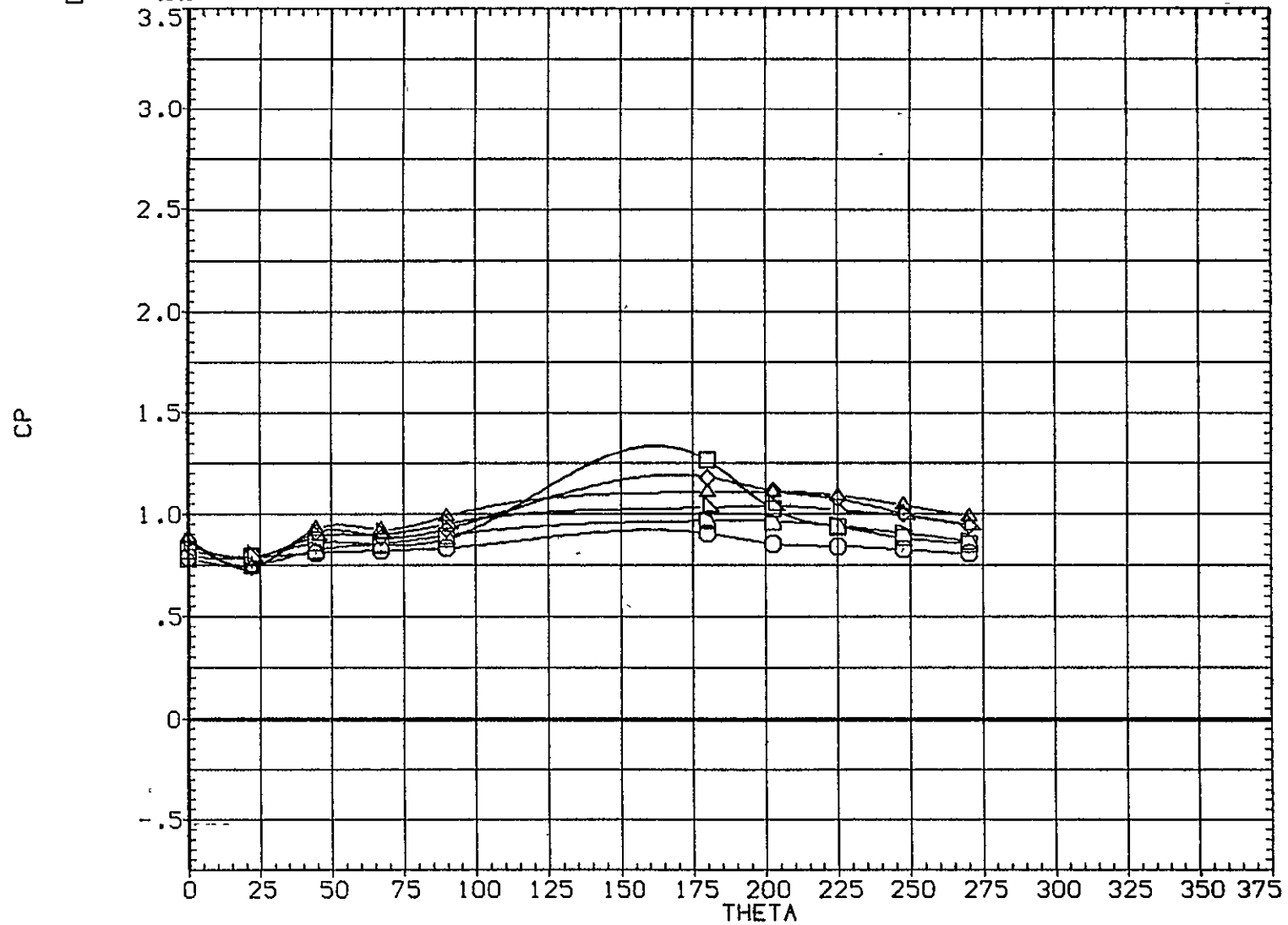
(B1G010)

SYMBOL ○ □ ◇ △ ▽ ▷ ◁	X/L	ALPHA	MACH	PARAMETRIC VALUES		
	.016	3.960	1.191	BETA	.000	PHI
	.018					.000
	.020					
	.022					
	.025					
	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	3.960	1.191			.000
□	.036					
◇	.039					
△	.041					
▽	.044					
◻	.049					



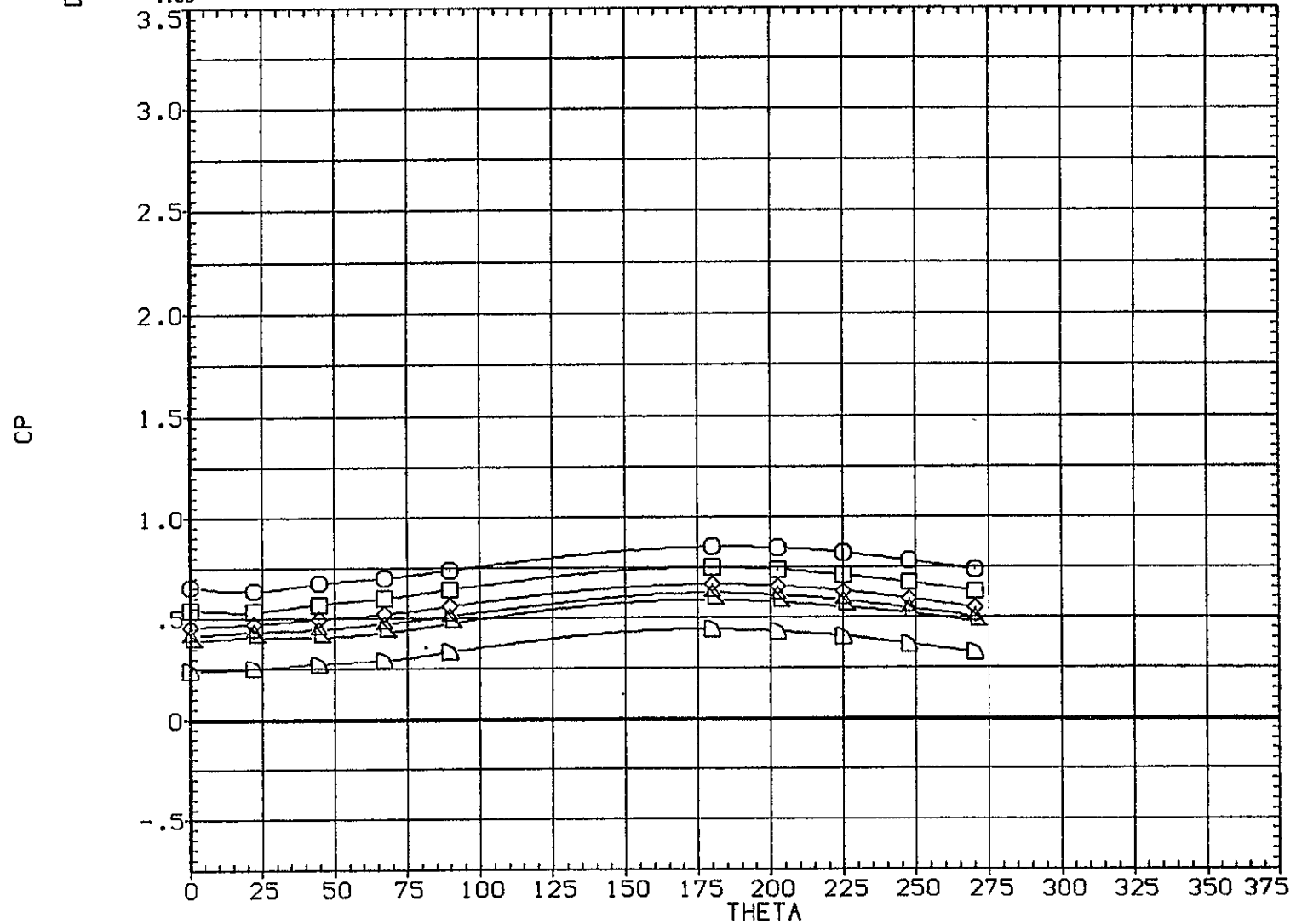
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

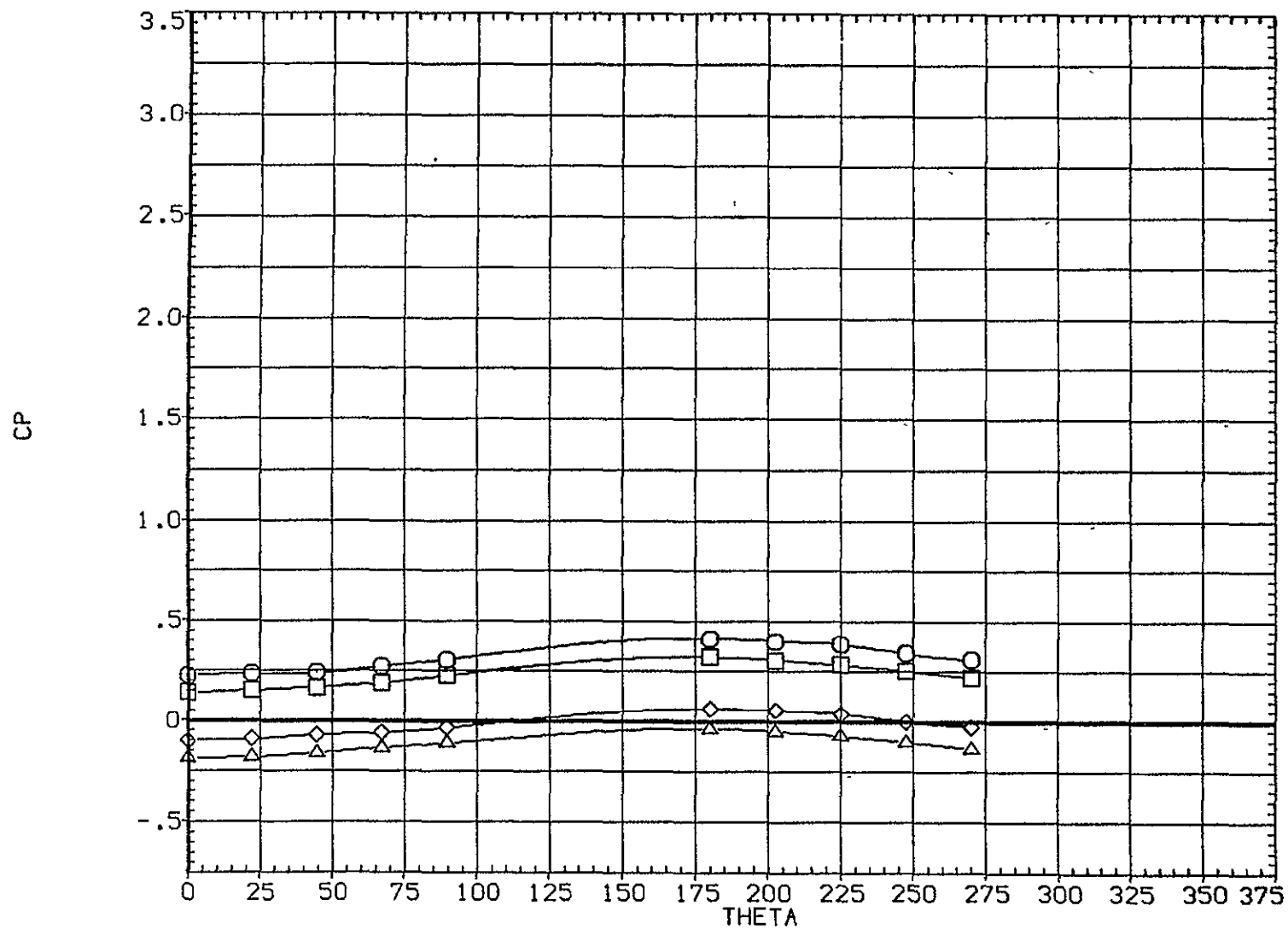
(B1G010)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES			
				BETA	PHI		
○	.058	3.960	1.191				
□	.068						
◇	.077						
△	.085						
▽	.093						
▷	.106						



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	3.960	1.191			
□	.131					
◇	.167					
△	.185					

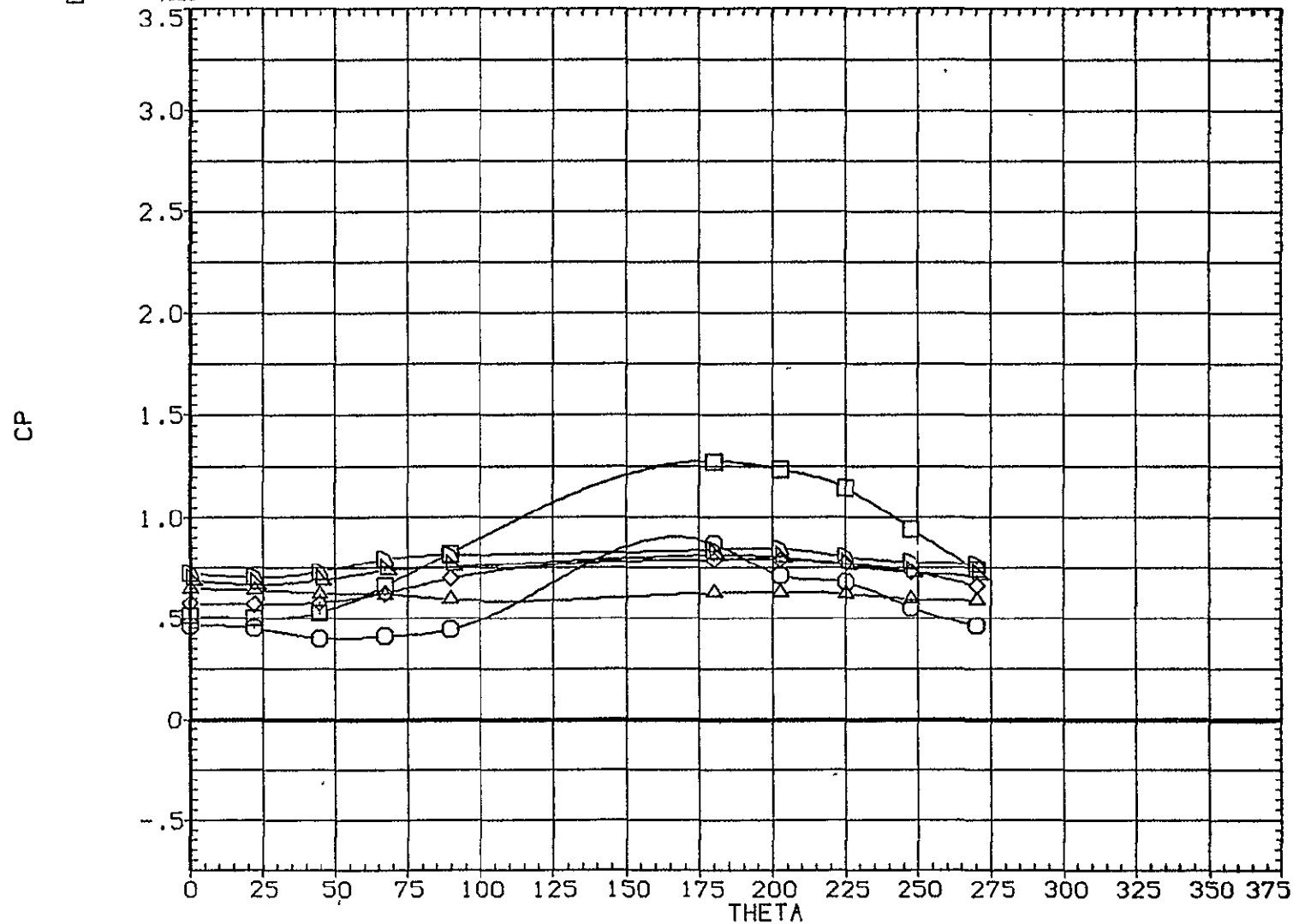


EFFECT OF RADIAL LOCATION ON PRESSURE

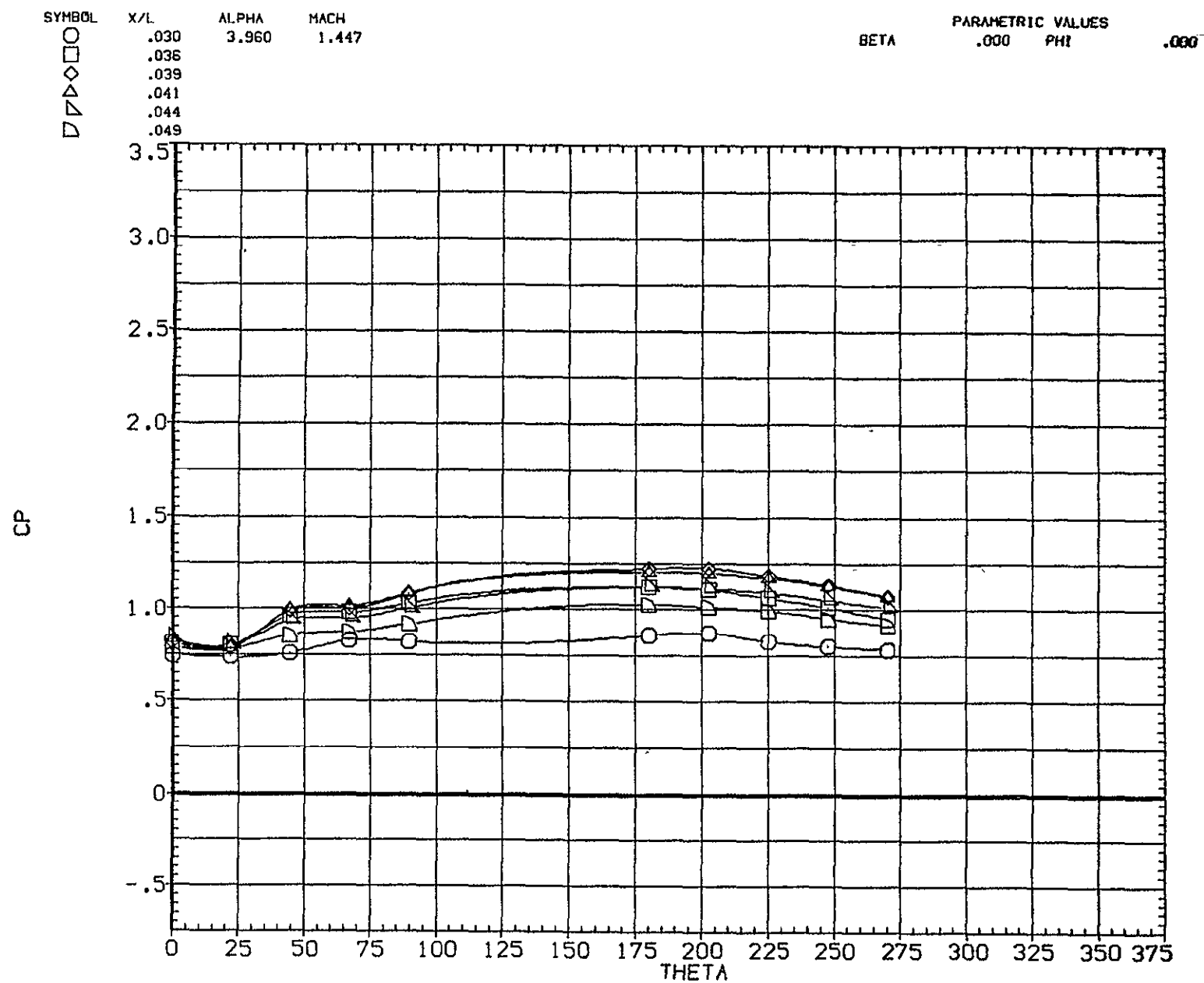
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G010)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	.000
○	.016	3.960	1.447			
□	.018					
◇	.020					
△	.022					
▽	.025					
▷	.028					



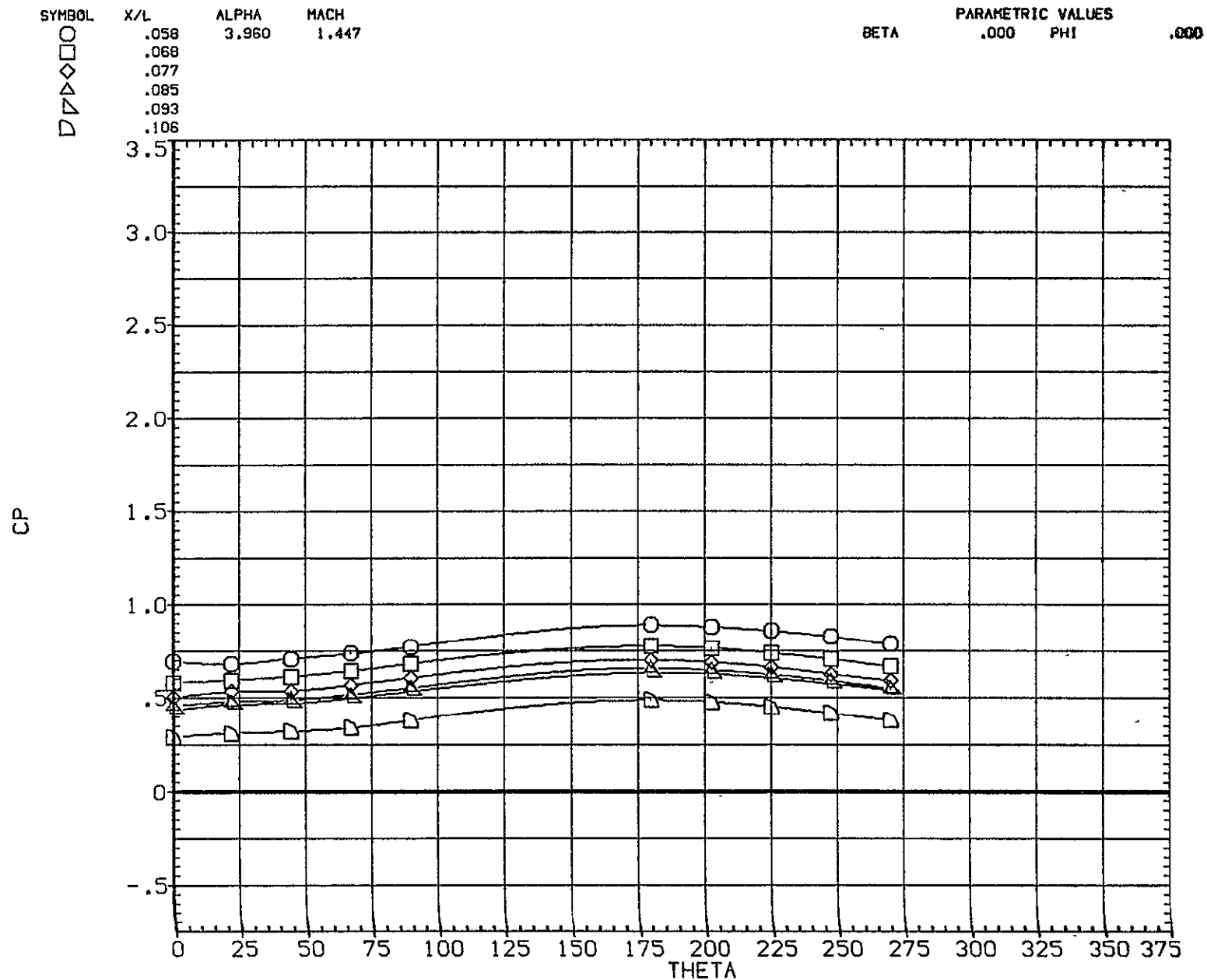
EFFECT OF RADIAL LOCATION ON PRESSURE



EFFECT OF RADIAL LOCATION ON PRESSURE

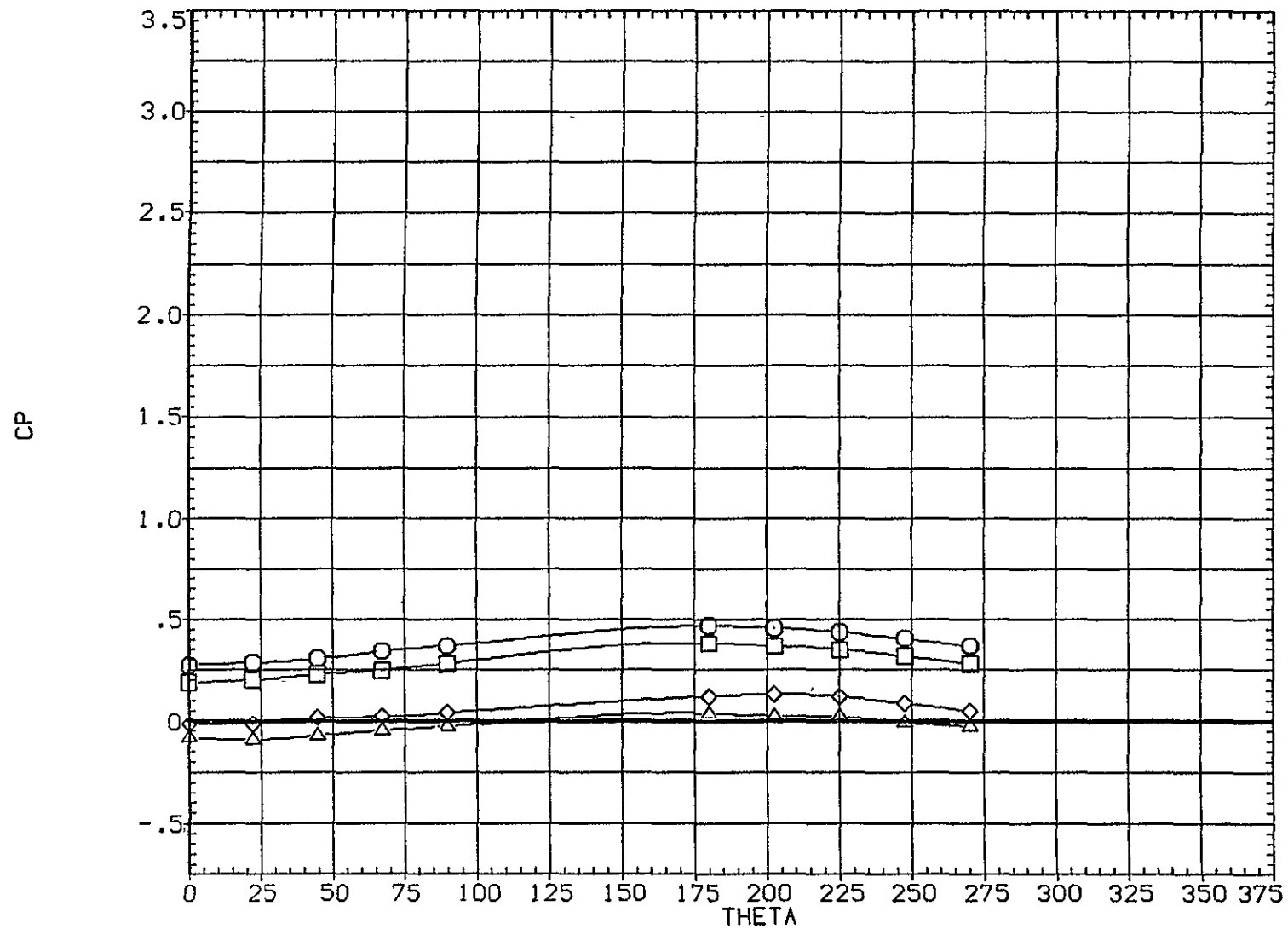
MSFC TWT 609 (TA3F) ET N0SE WITH N0SE CAP

(B1G010)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	3.960	1.447			
□	.131					
◇	.167					
△	.185					

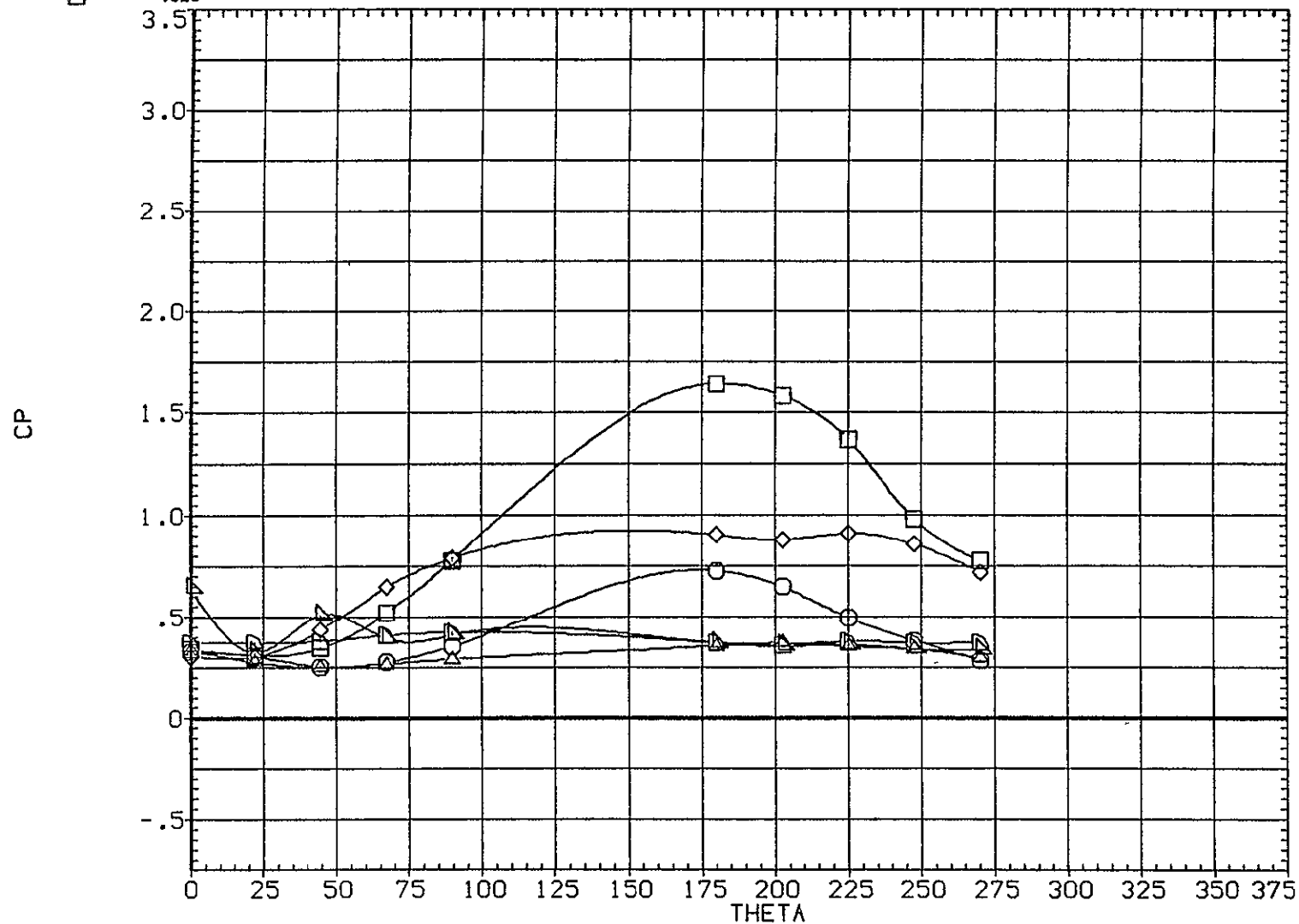


EFFECT OF RADIAL LOCATION ON PRESSURE

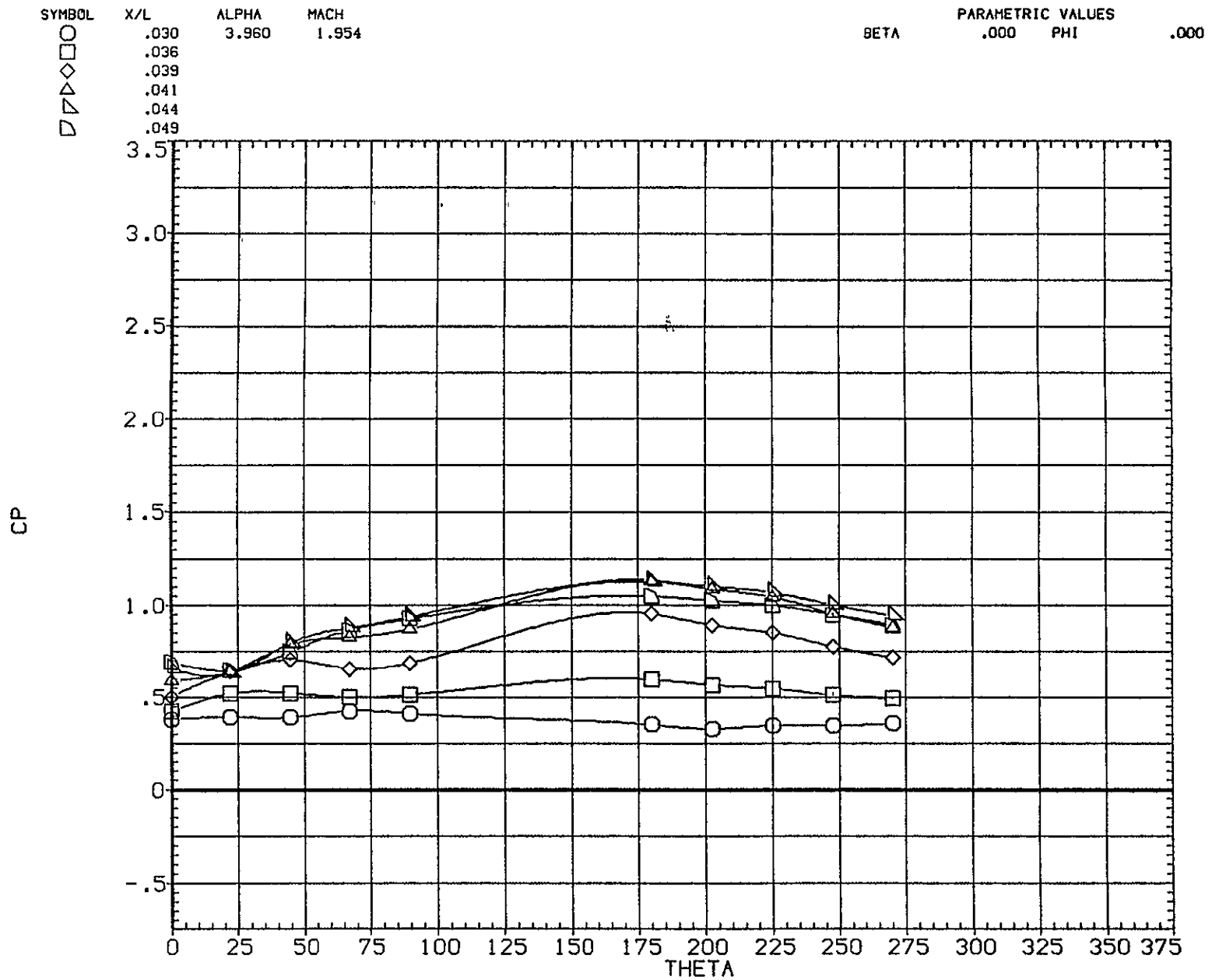
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G010)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.000
○	.016	3.960	1.954				
□	.018						
◇	.020						
△	.022						
▽	.025						
◇	.028						



EFFECT OF RADIAL LOCATION ON PRESSURE



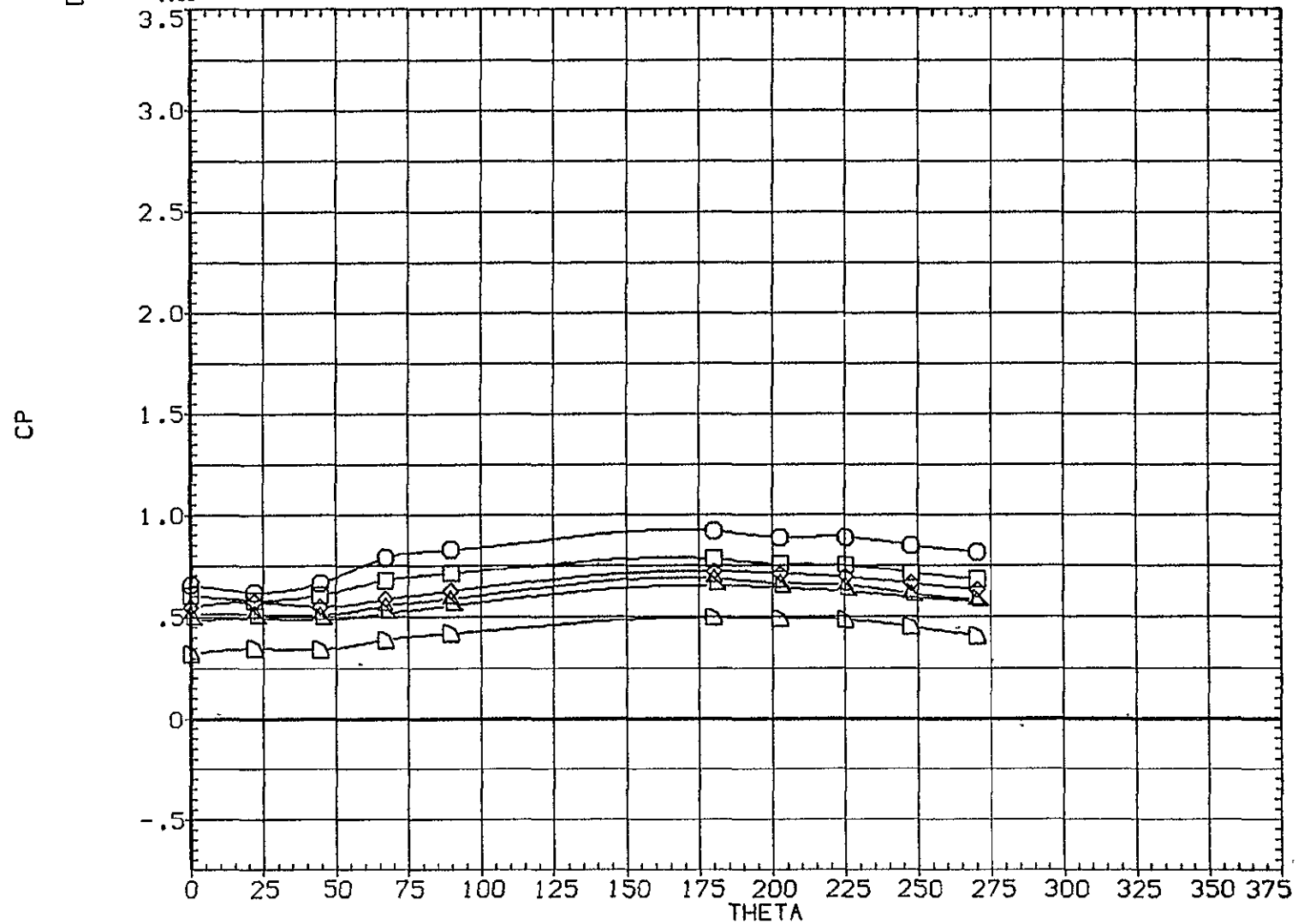
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

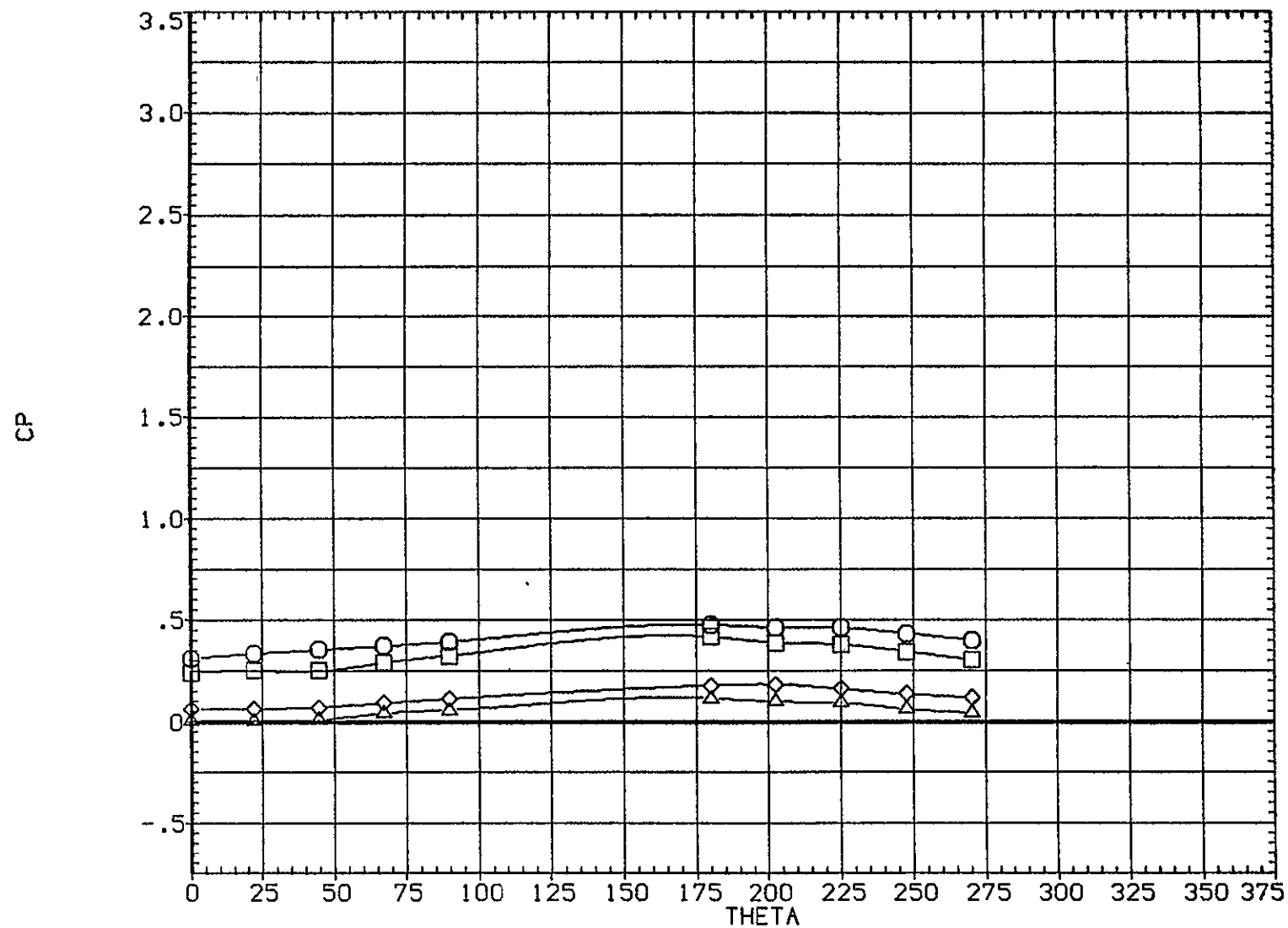
(B1G010)

SYMBOL ○ □ ◇ △ ▽ ◇	X/L	ALPHA	MACH	PARAMETRIC VALUES			
	.058	3.960	1.954	BETA	.000	PHI	.000
	.068						
	.077						
	.085						
	.093						
	.106						



EFFECT OF RADIAL LOCATION ON PRESSURE

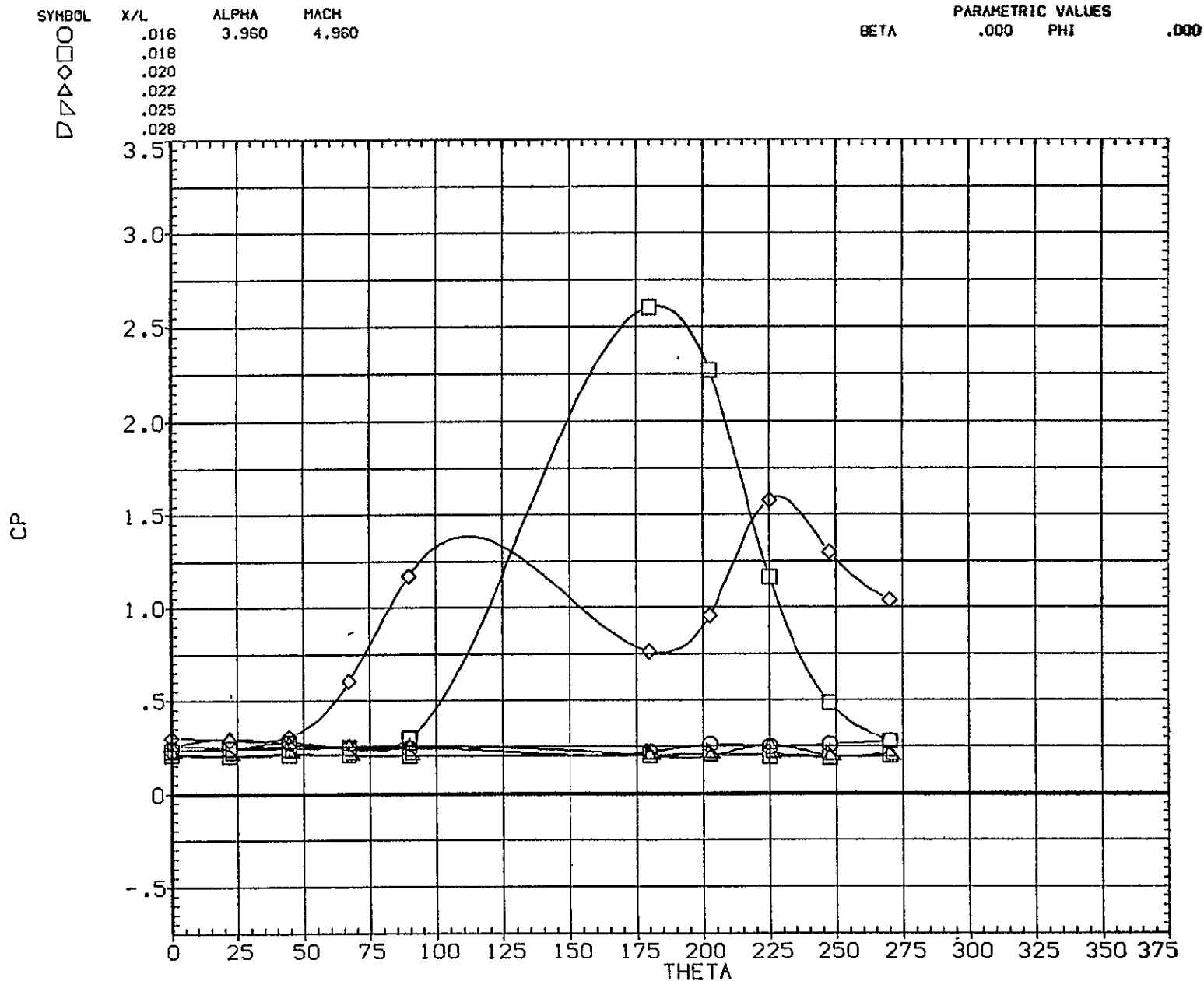
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	3.960	1.954			
□	.131					
◇	.167					
△	.185					



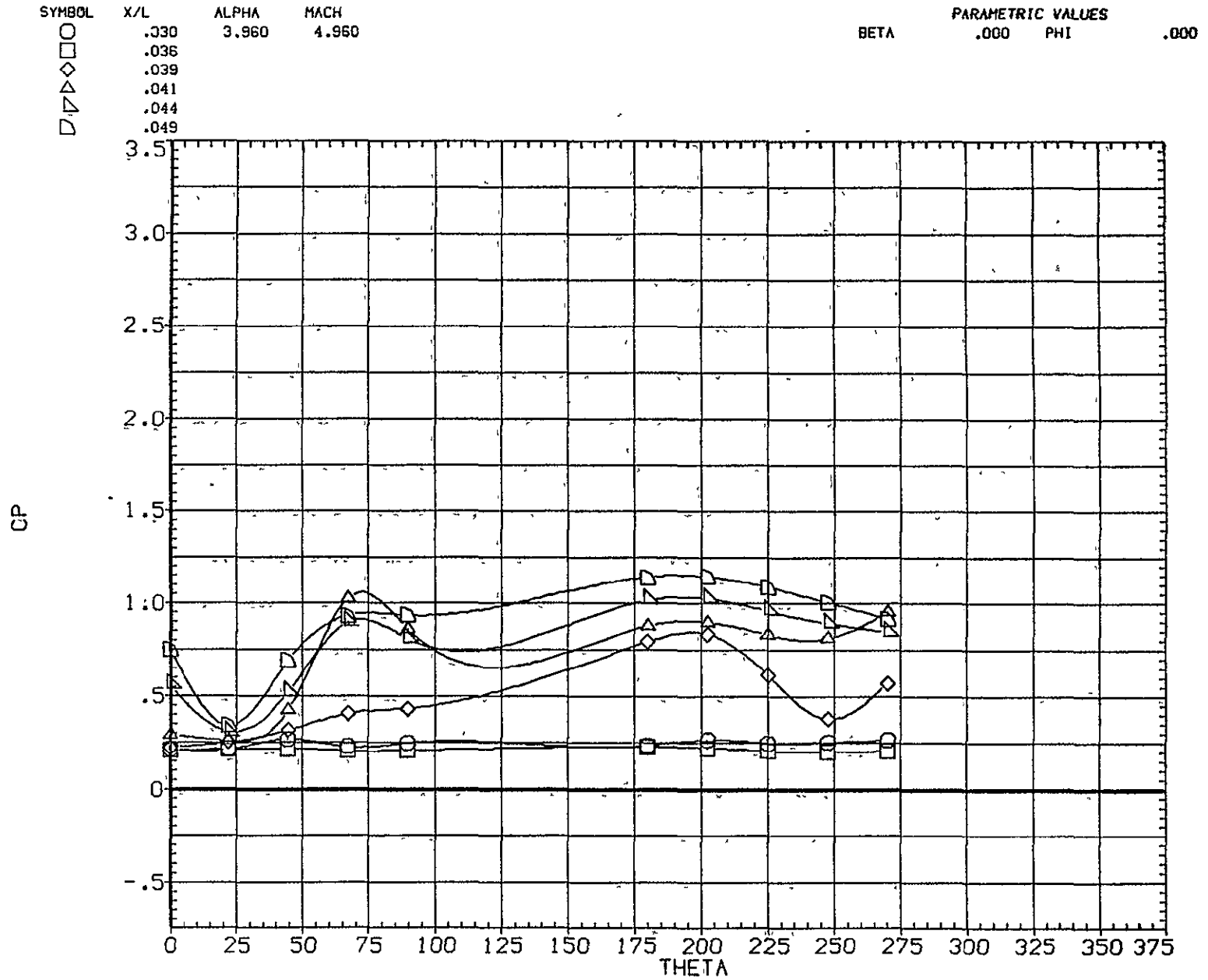
EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G010)



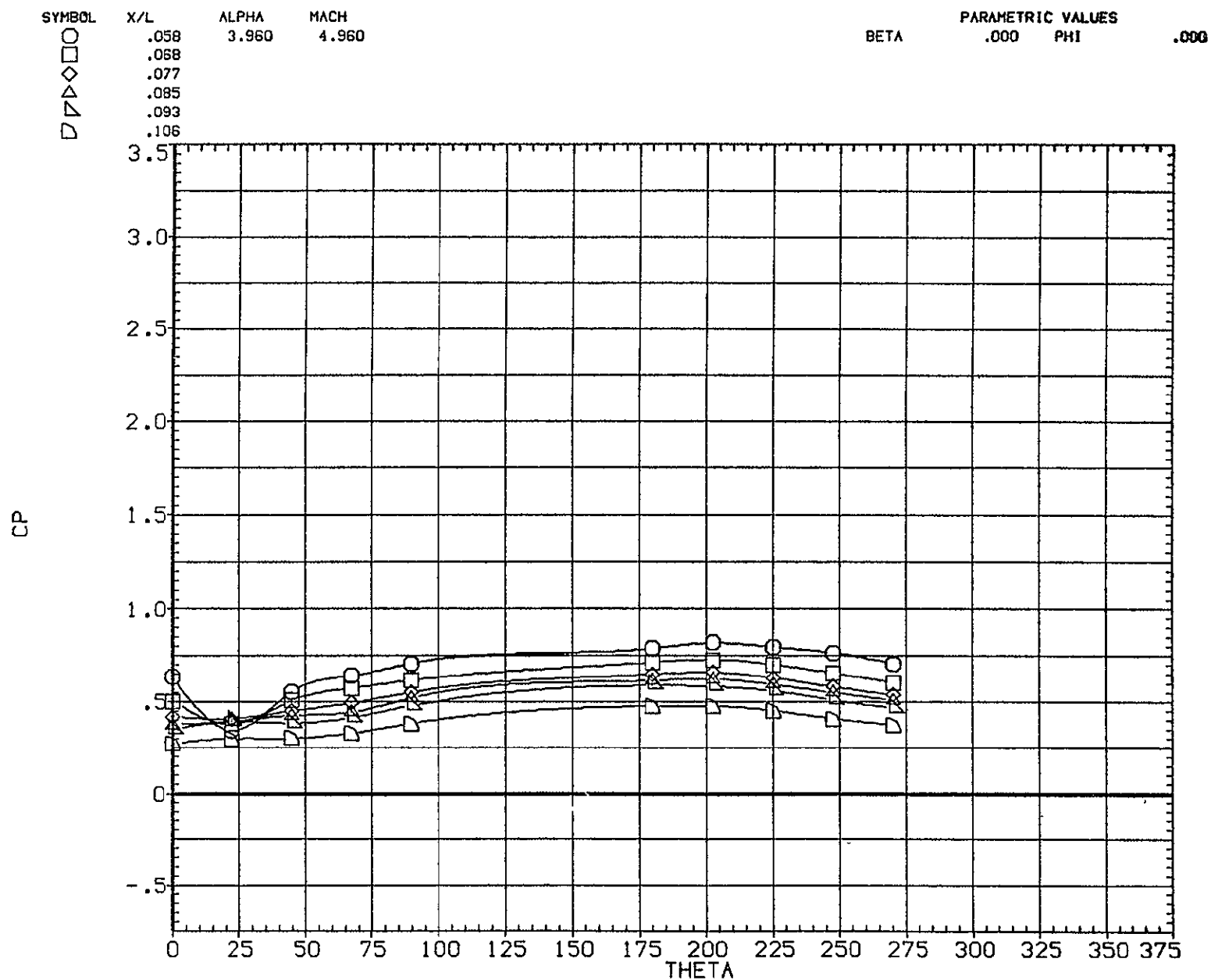
EFFECT OF RADIAL LOCATION ON PRESSURE



EFFECT OF RADIAL LOCATION ON PRESSURE

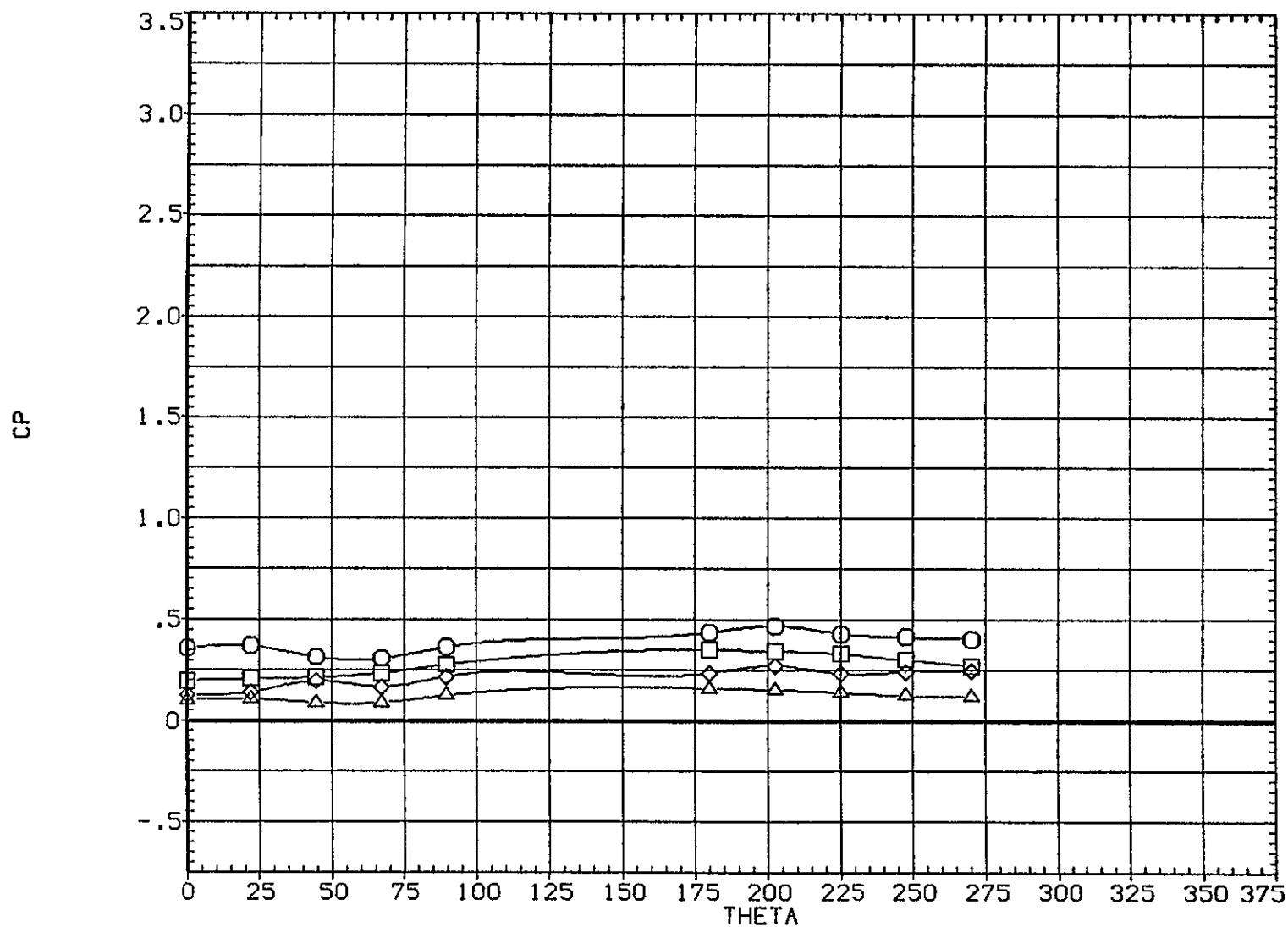
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G010)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	3.960	4.960			
□	.131				.000	
◇	.167					.000
△	.185					

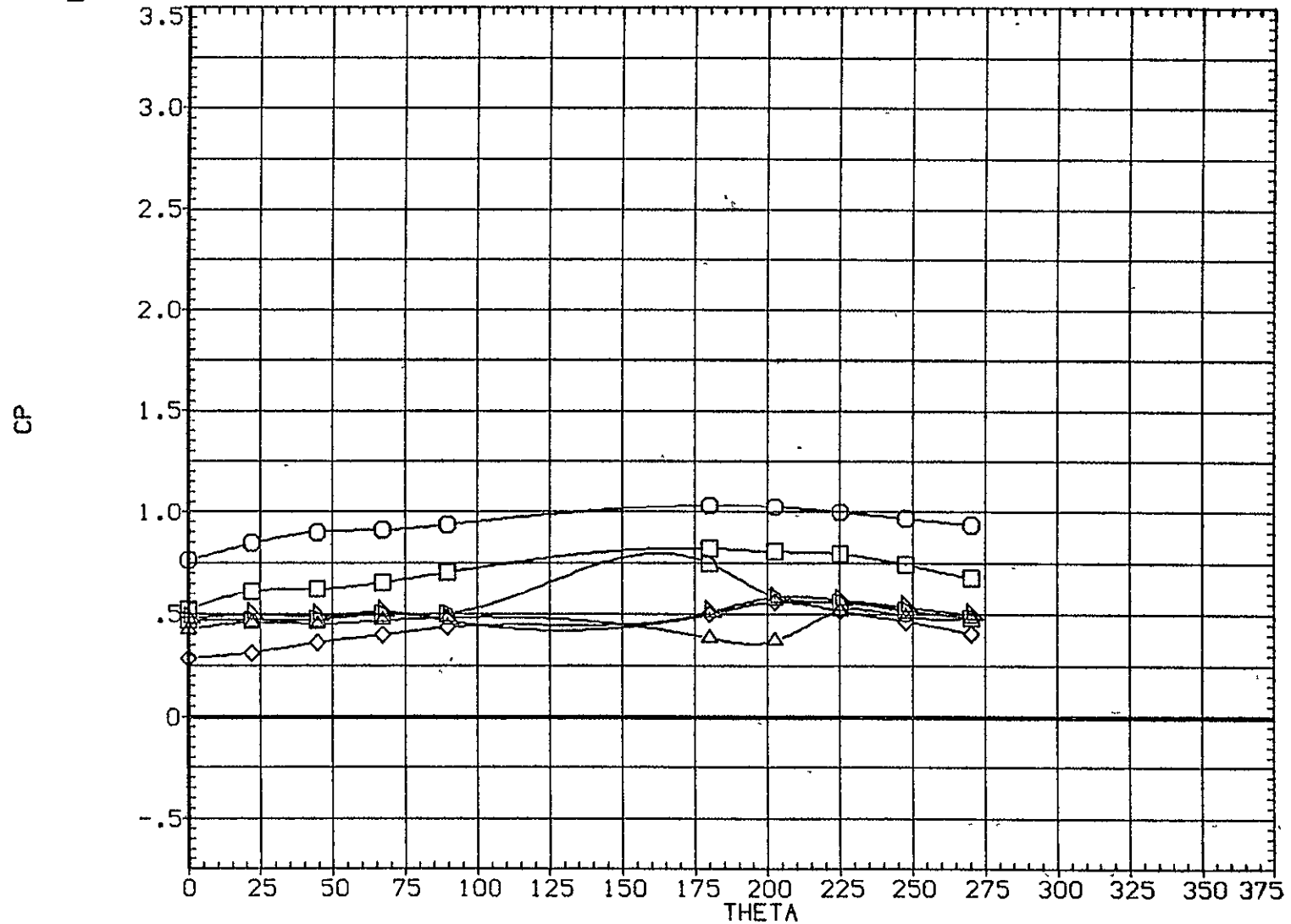


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

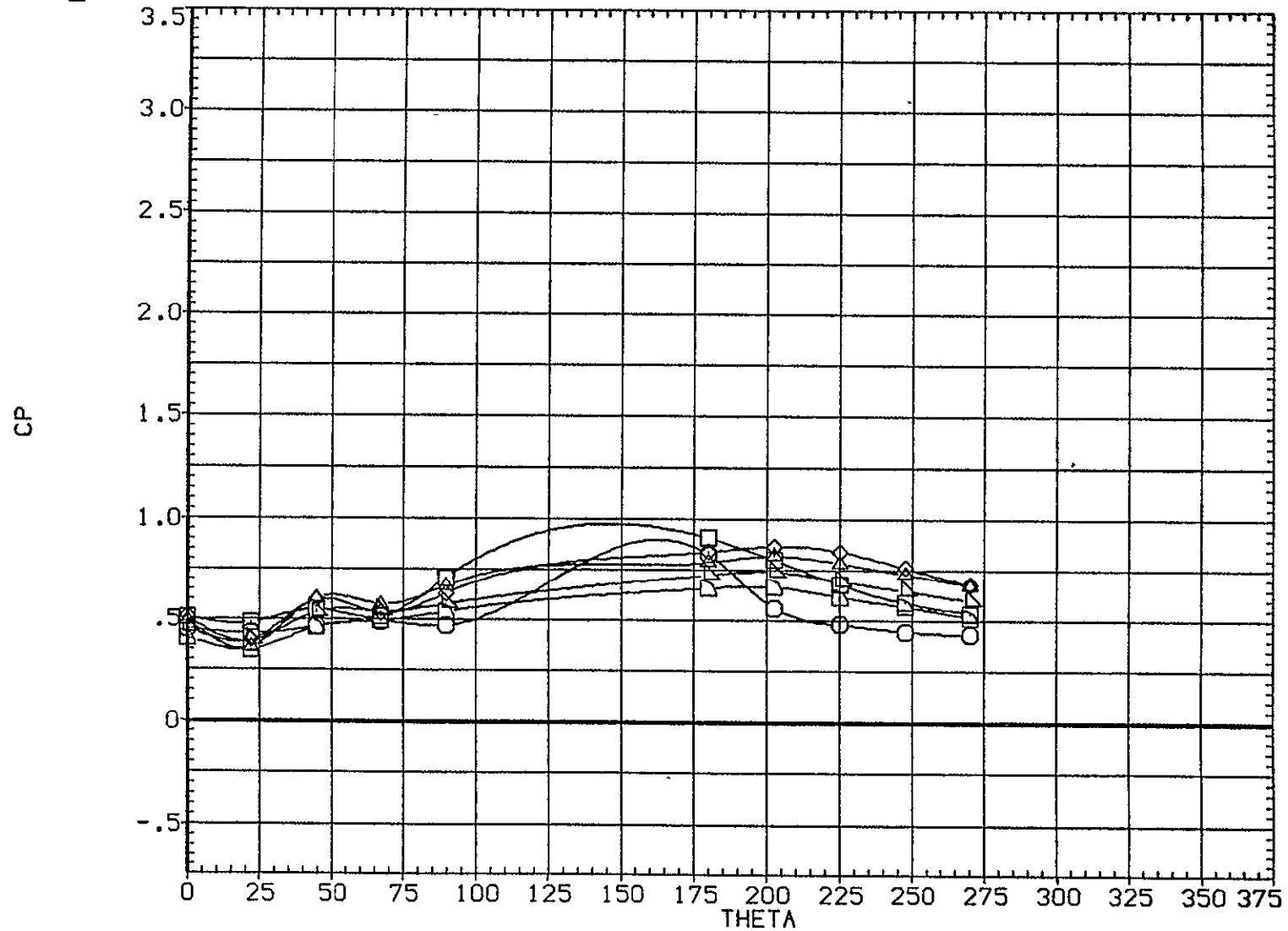
(B1G011)

SYMBOL ○ □ ◇ △ ▽ ▷	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
	.016	4.980	.597		.000	PHI	.000
	.018						
	.020						
	.022						
	.025						
	.028						



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	4.980	.597	.000		.000
□	.036					
◇	.039					
△	.041					
▽	.044					
◁	.049					

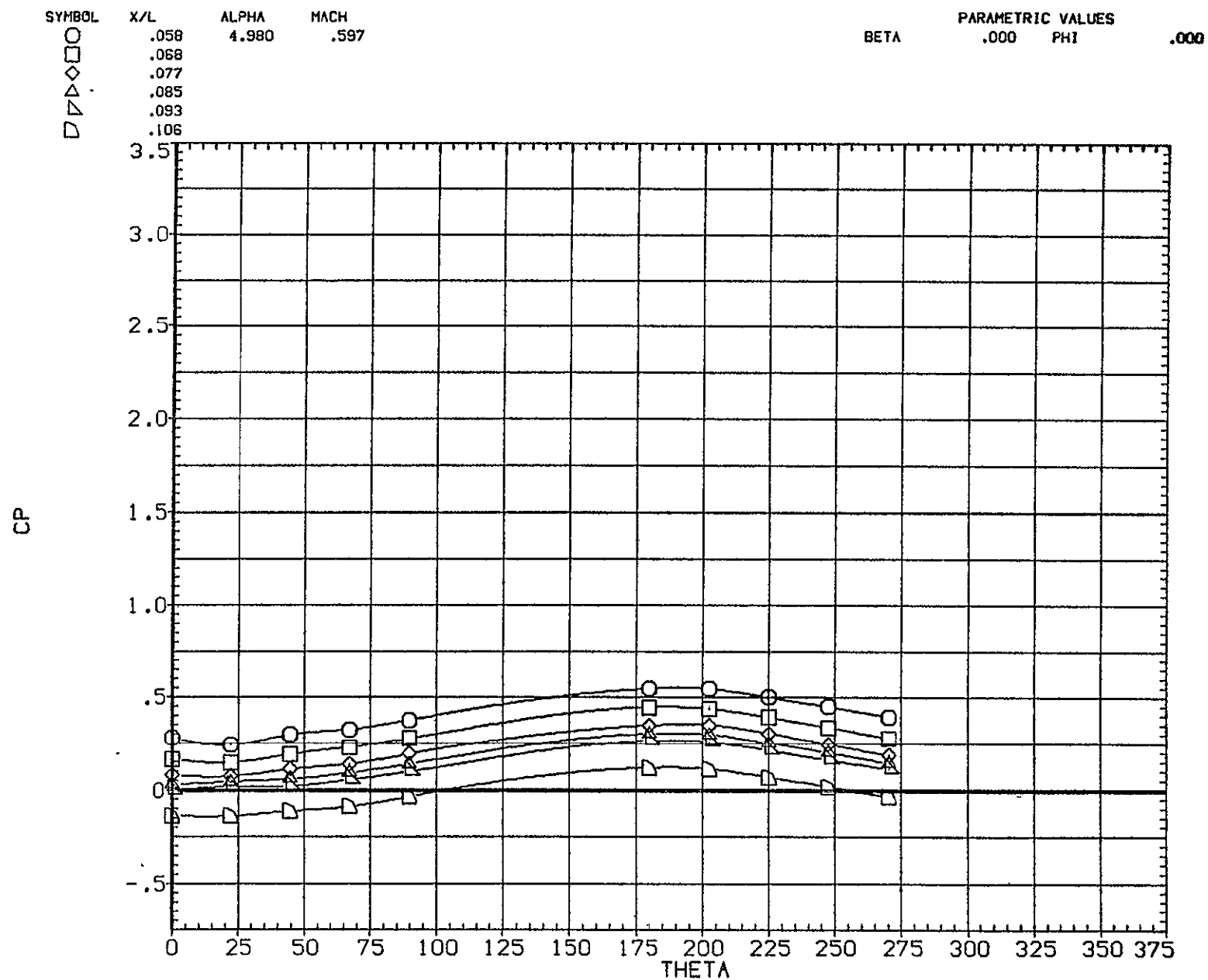


EFFECT OF RADIAL LOCATION ON PRESSURE



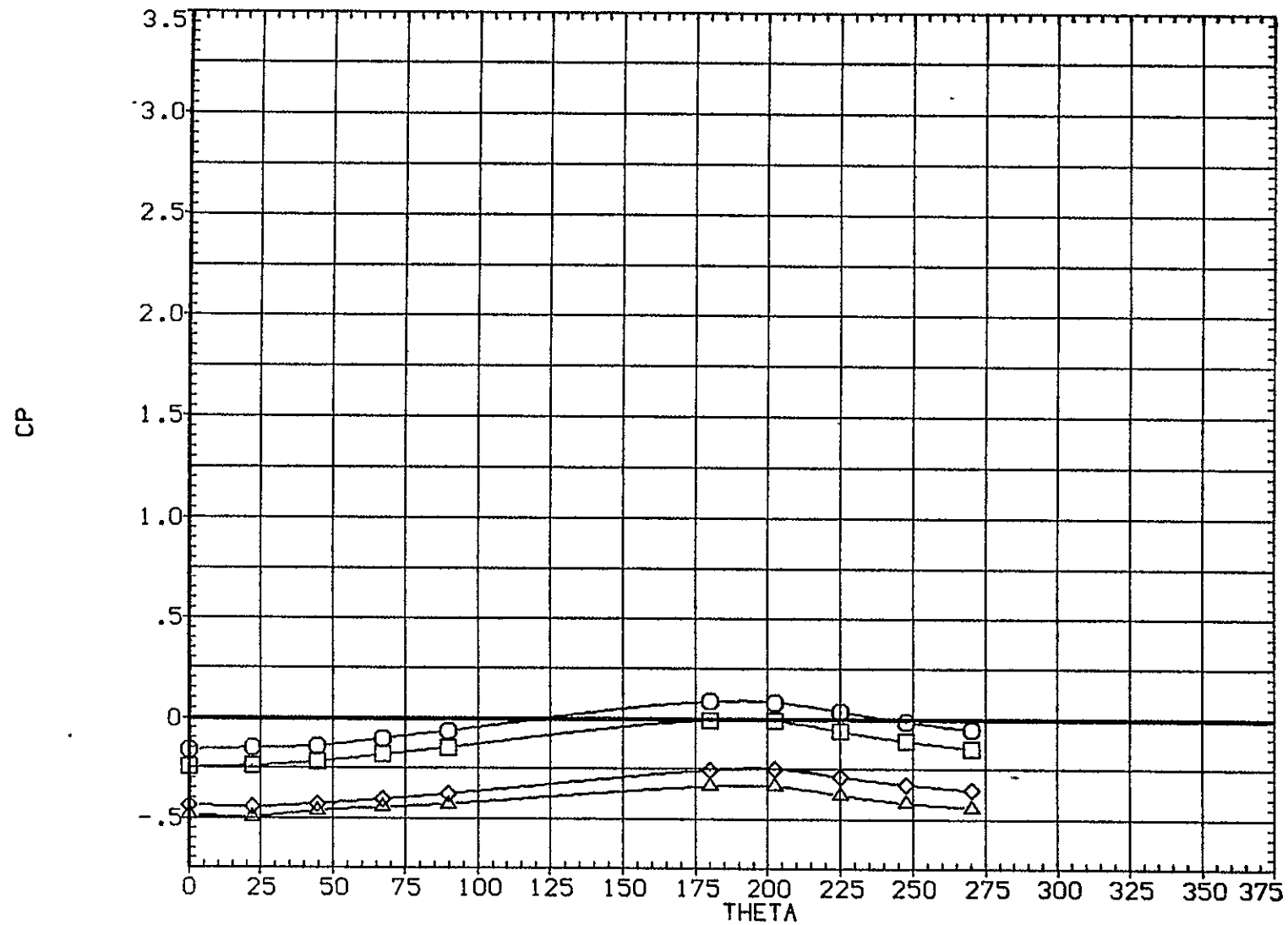
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16011)



EFFECT OF RADIAL LOCATION ON PRESSURE

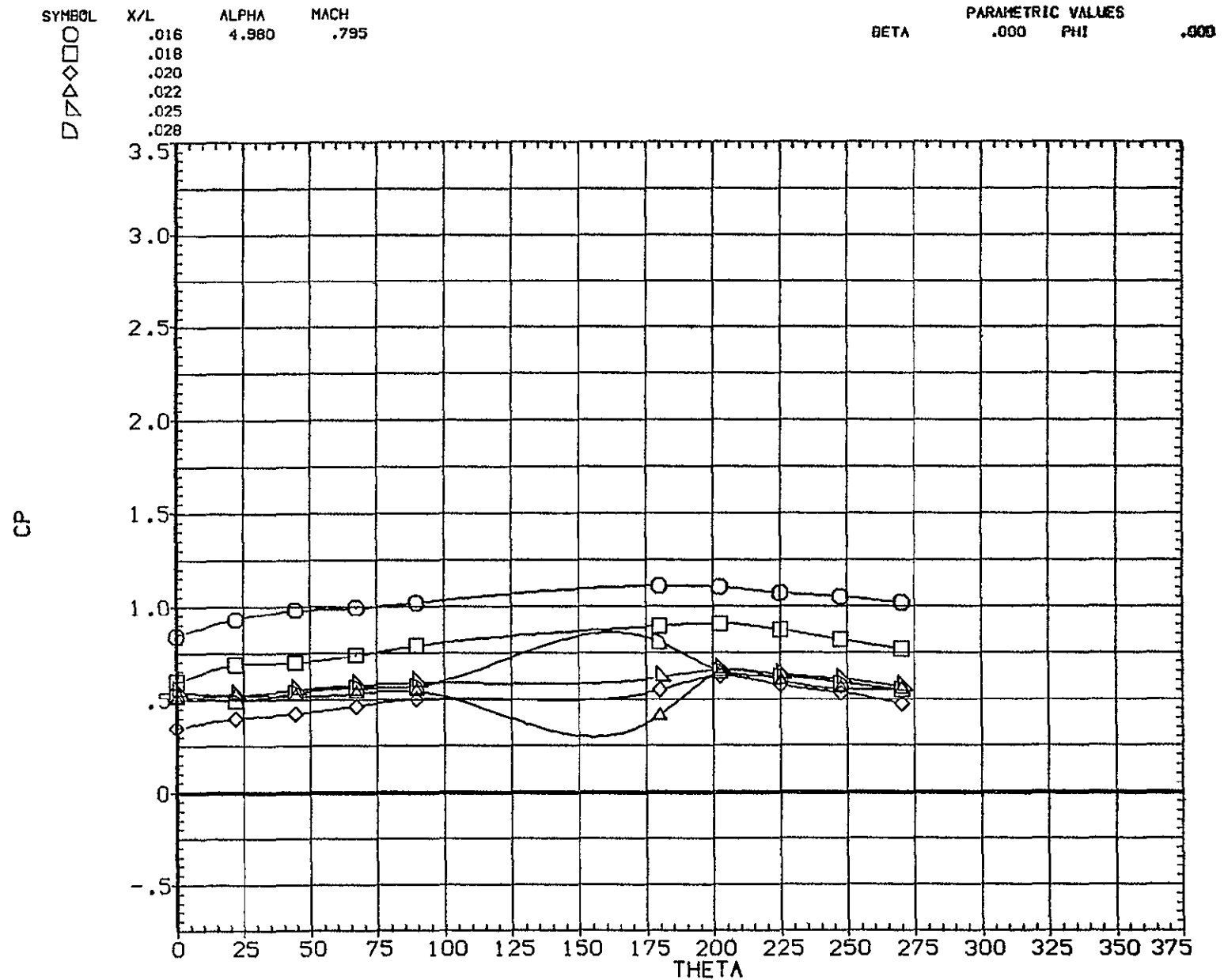
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	4.980	.597			
□	.131				.000	.000
◇	.167					
△	.185					



EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G011)



EFFECT OF RADIAL LOCATION ON PRESSURE

**.000**

**.795**

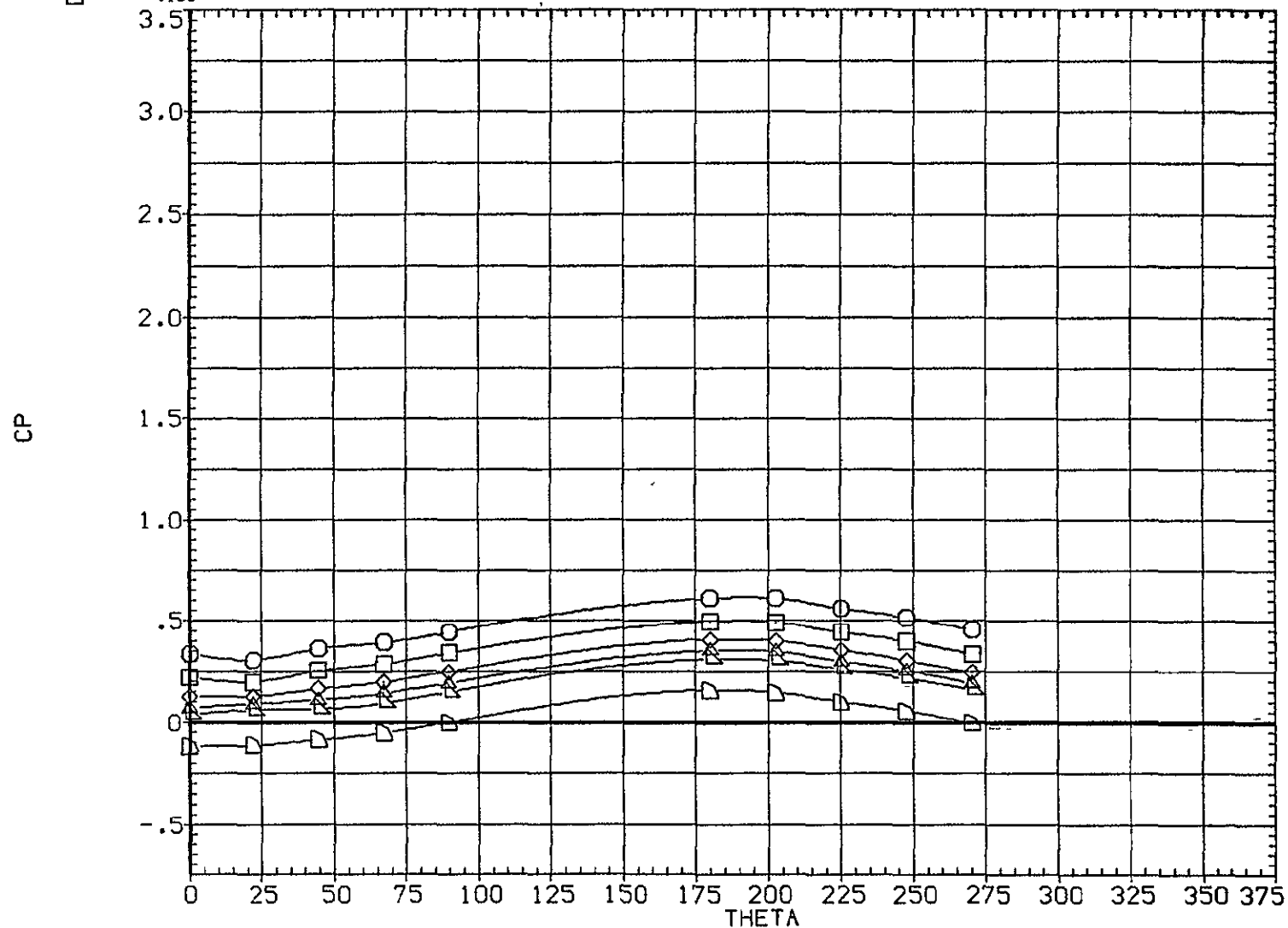


PAGE 286

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

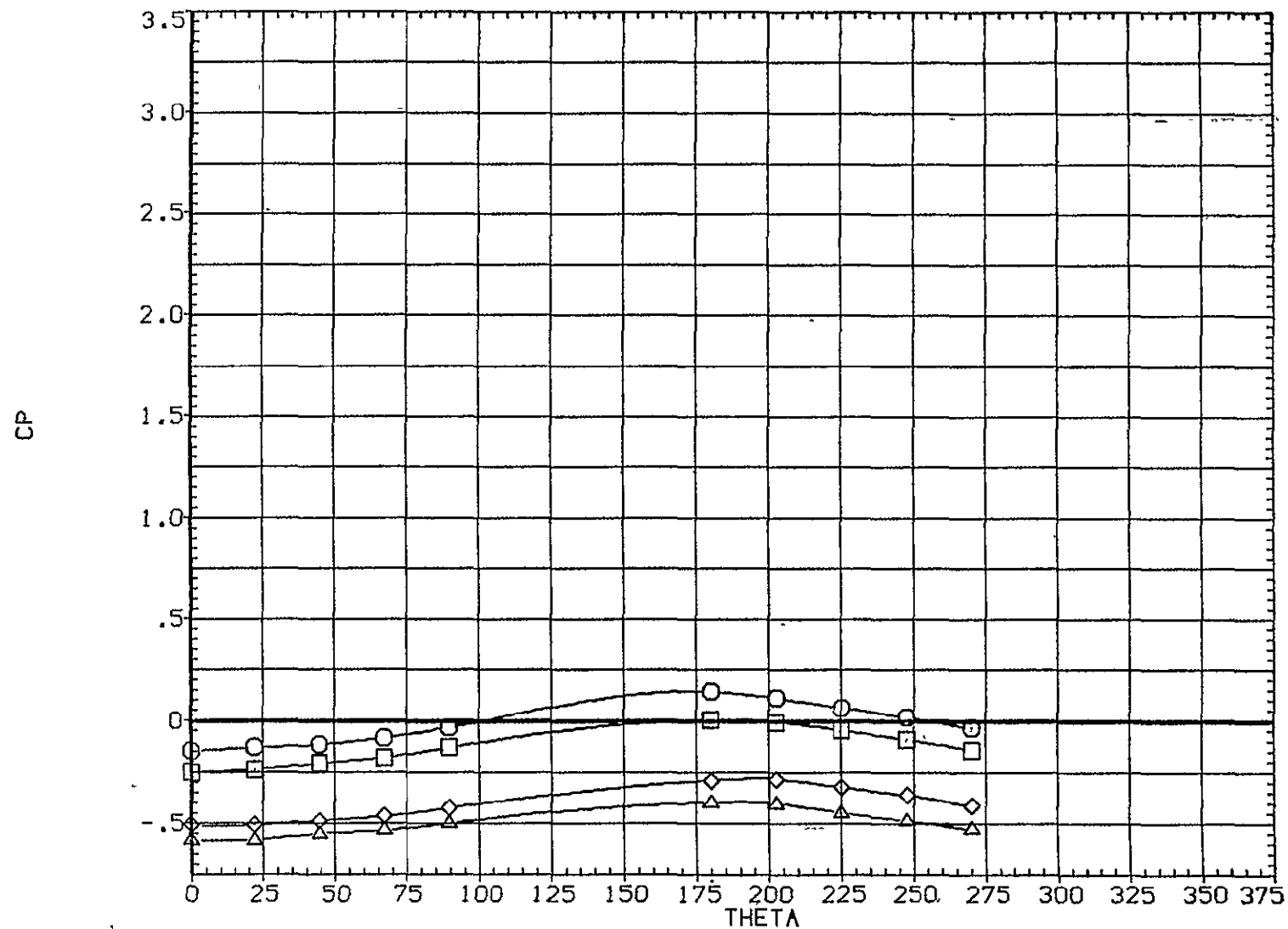
(B16011)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	4.980	.795			
□	.068					
◇	.077					
△	.085					
▽	.093					
▷	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	4.980	.795			
□	.131					
◇	.167					
△	.185					

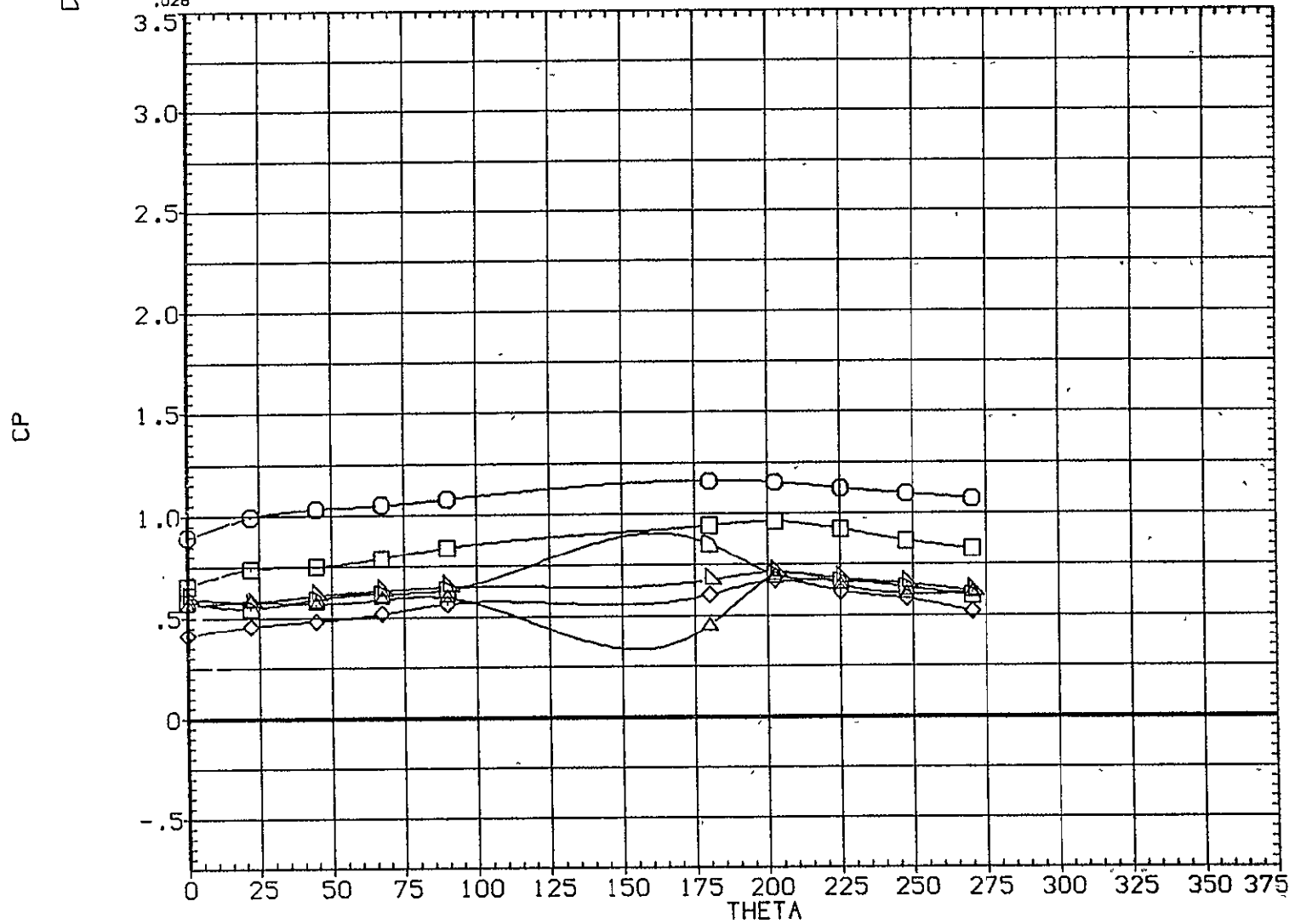


EFFECT OF RADIAL LOCATION ON PRESSURE

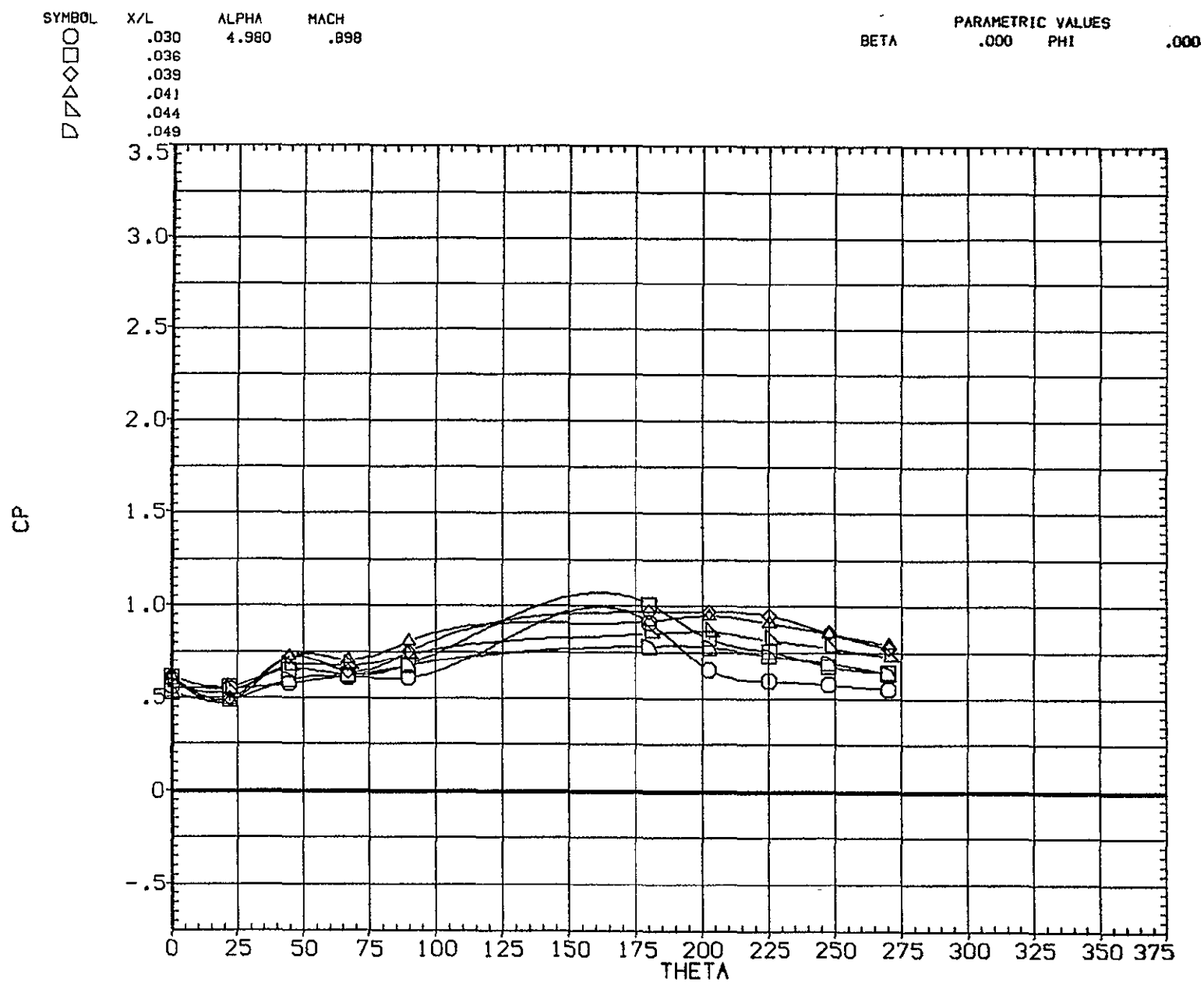
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G011)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	4.980	.898			
□	.018					
◇	.020					
△	.022					
▽	.025					
◁	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE



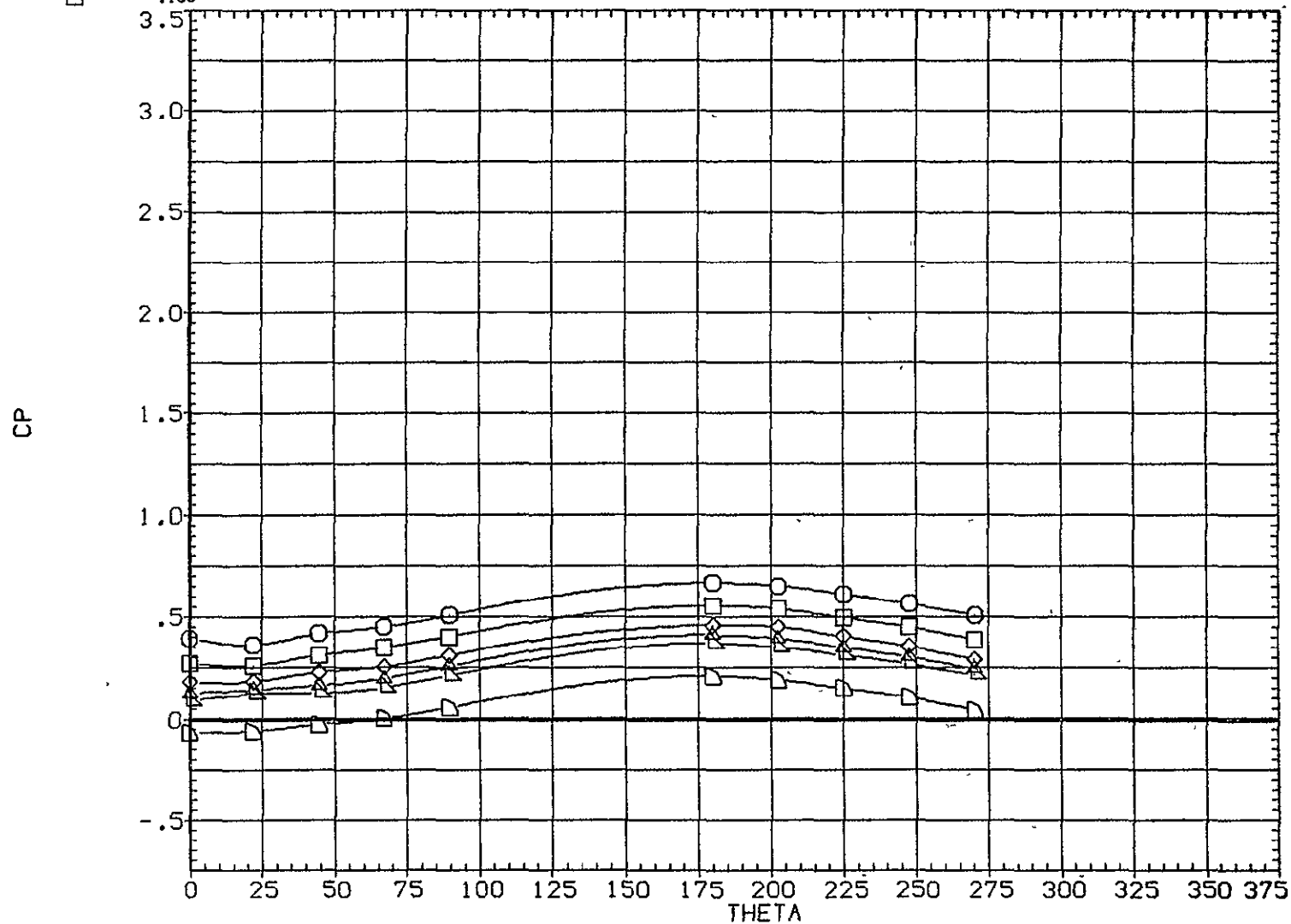
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

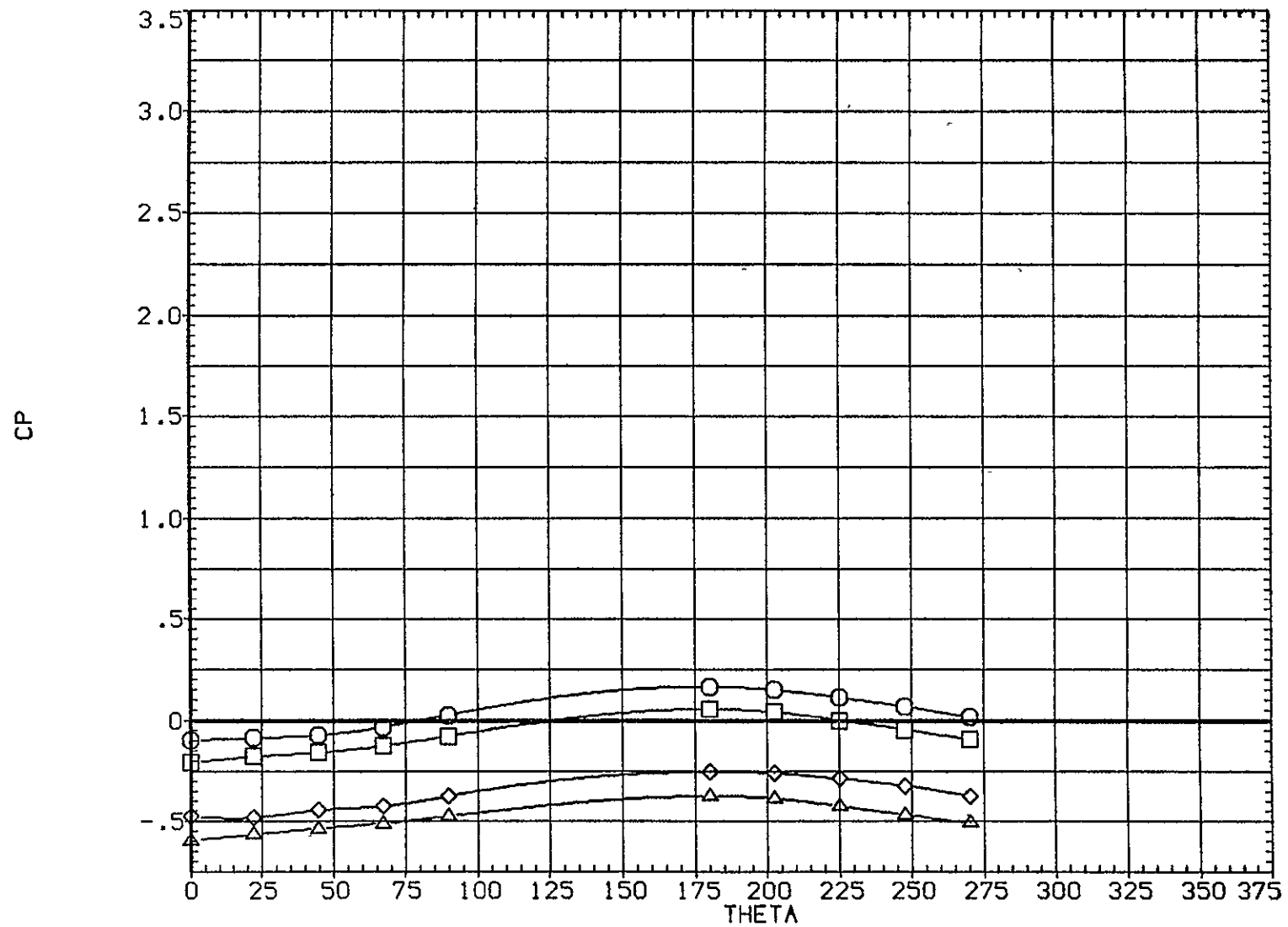
(B16011)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	4.980	.898			
□	.068					
◇	.077					
△	.085					
▽	.093					
◁	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES			
				BETA	PHI		
○	.118	4.980	.898				
□	.131						
◇	.167						
△	.185						

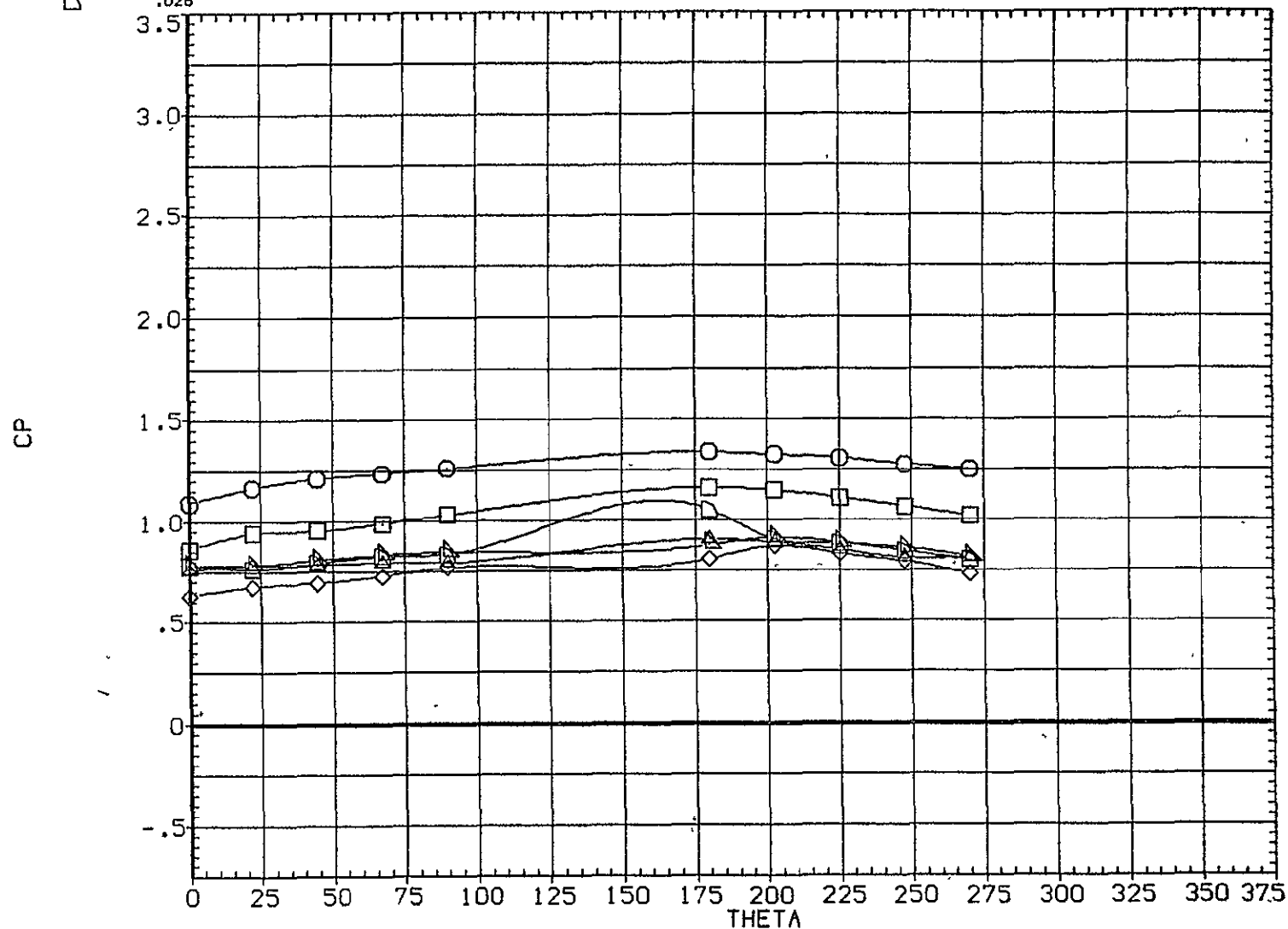


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

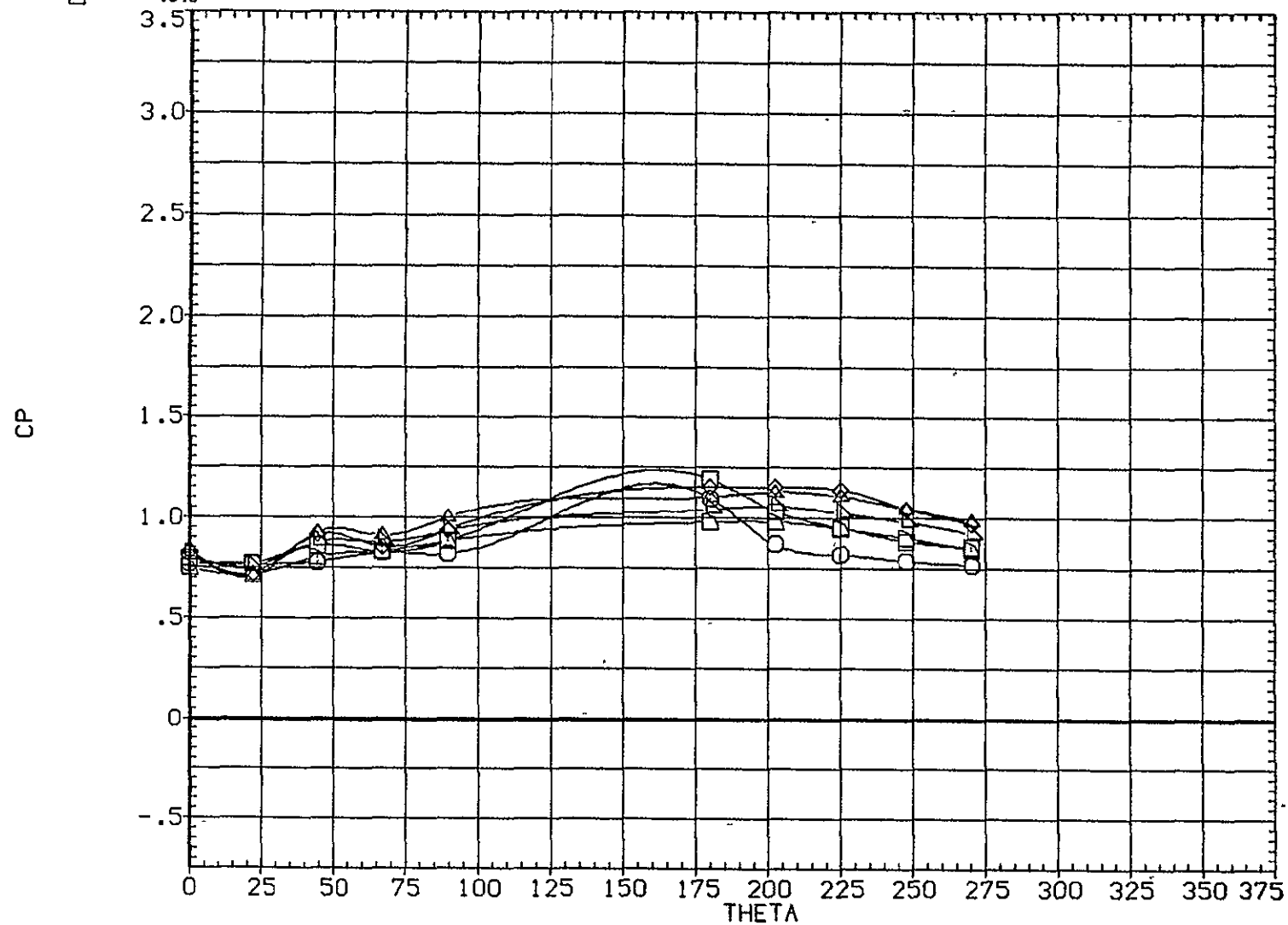
(B16011)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	4.980	1.188			
□	.018					
◇	.020					
△	.022					
▽	.025					
◇	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.030	4.980	1.188		.000		.000
□	.036						
◇	.039						
△	.041						
▽	.044						
◇	.049						

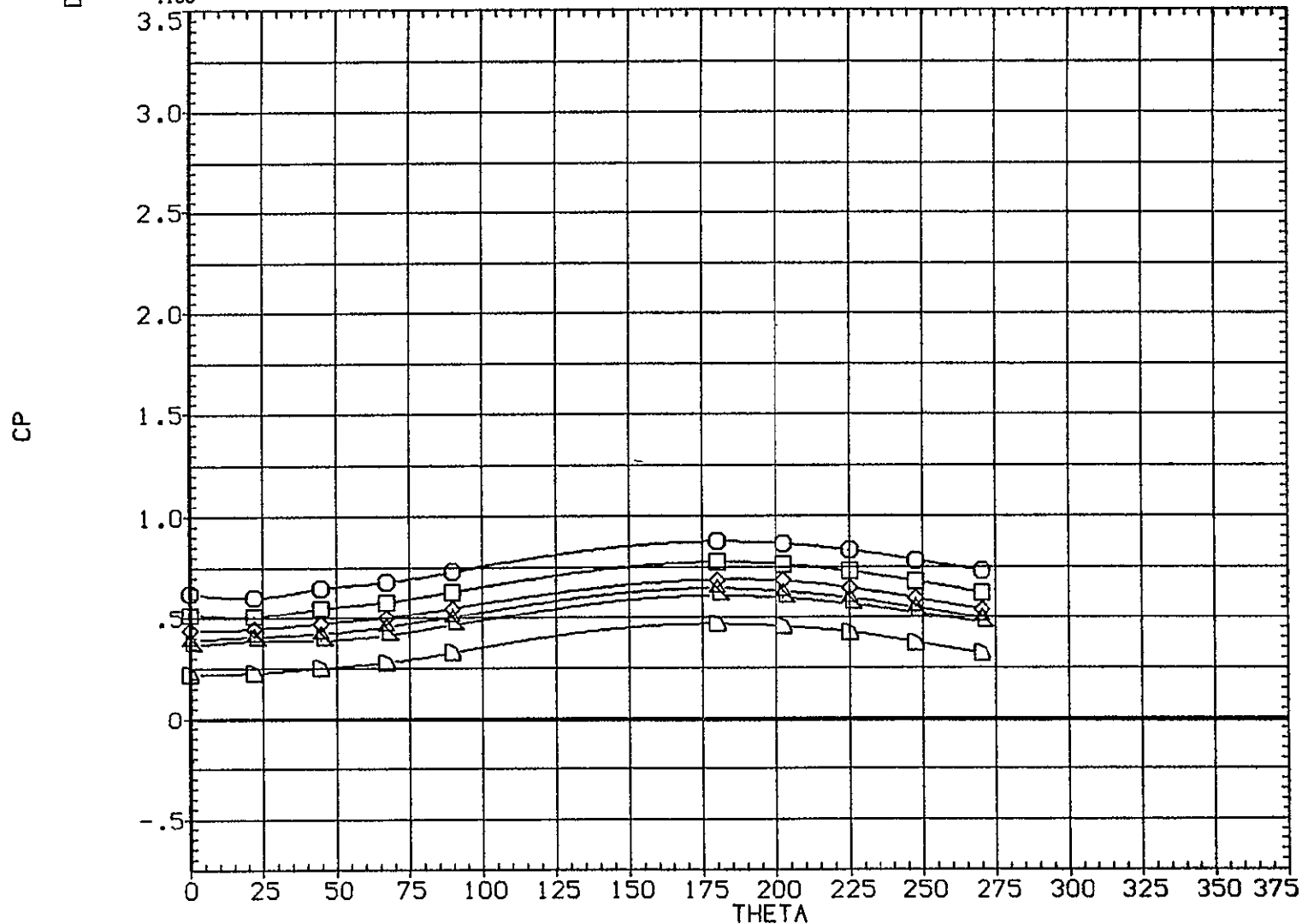


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

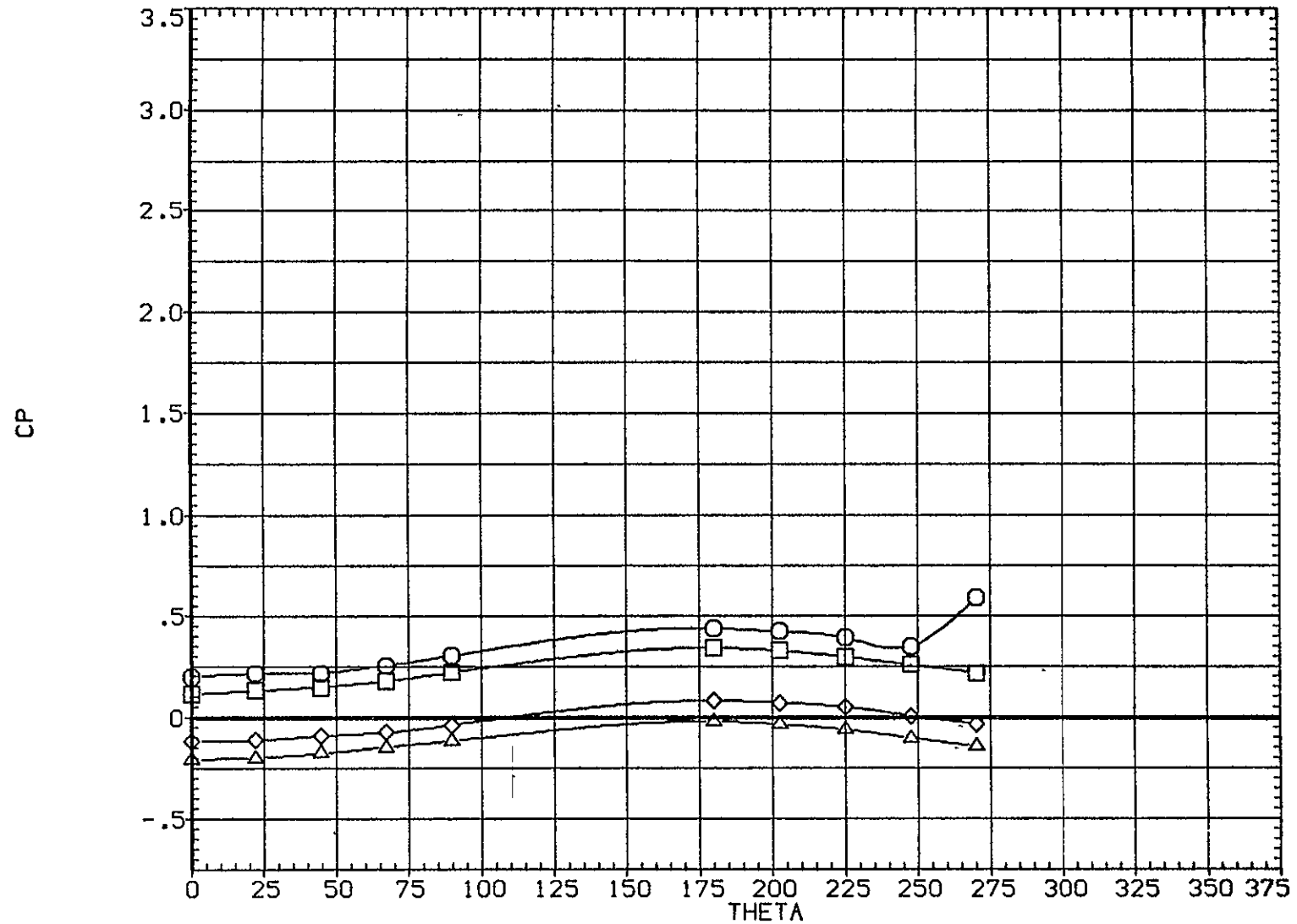
(B1G011)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.000
○	.058	4.980	1.188				
□	.068						
◇	.077						
△	.085						
▽	.093						
▽	.106						



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	4.980	1.188			
□	.131					
◇	.167					
△	.185					

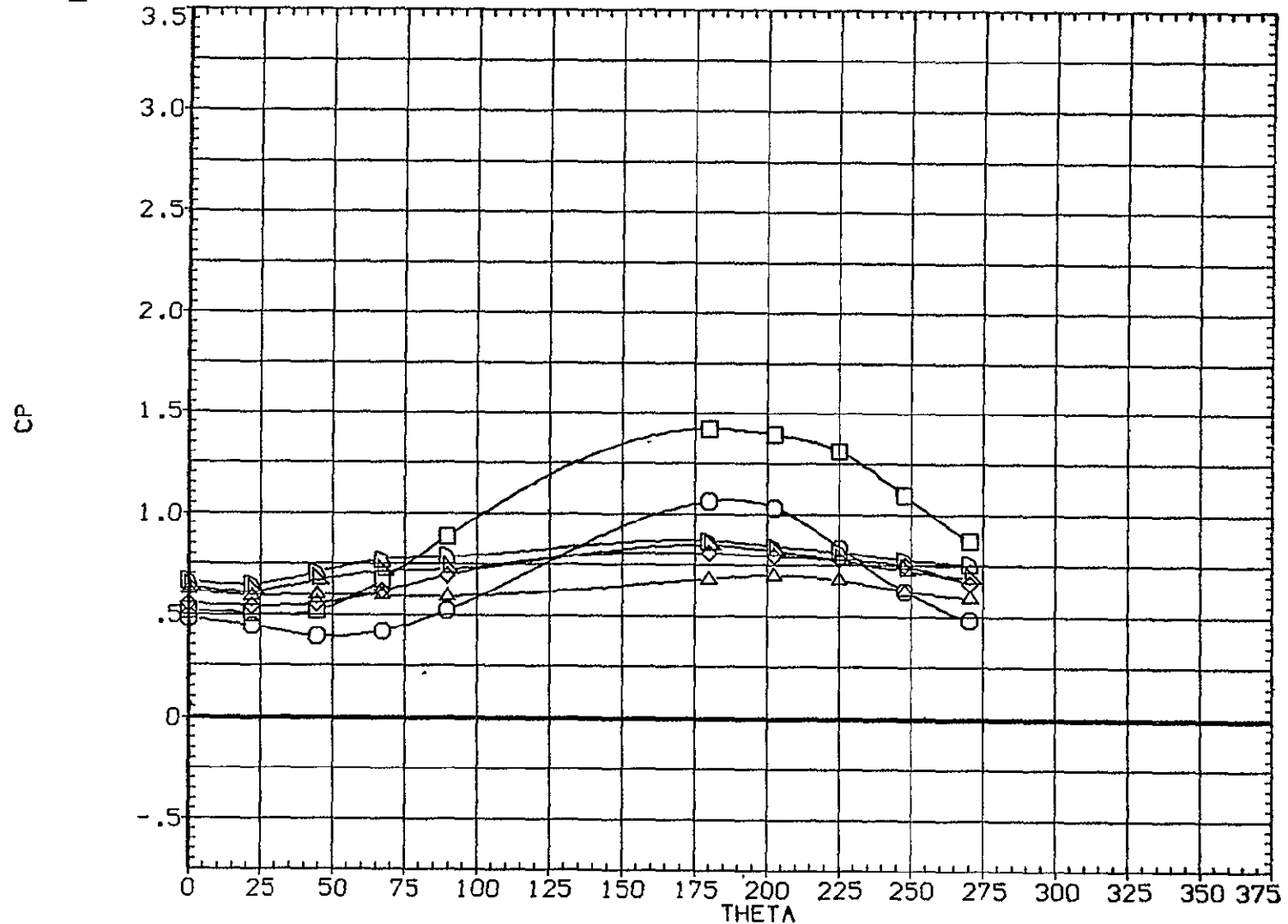


EFFECT OF RADIAL LOCATION ON PRESSURE

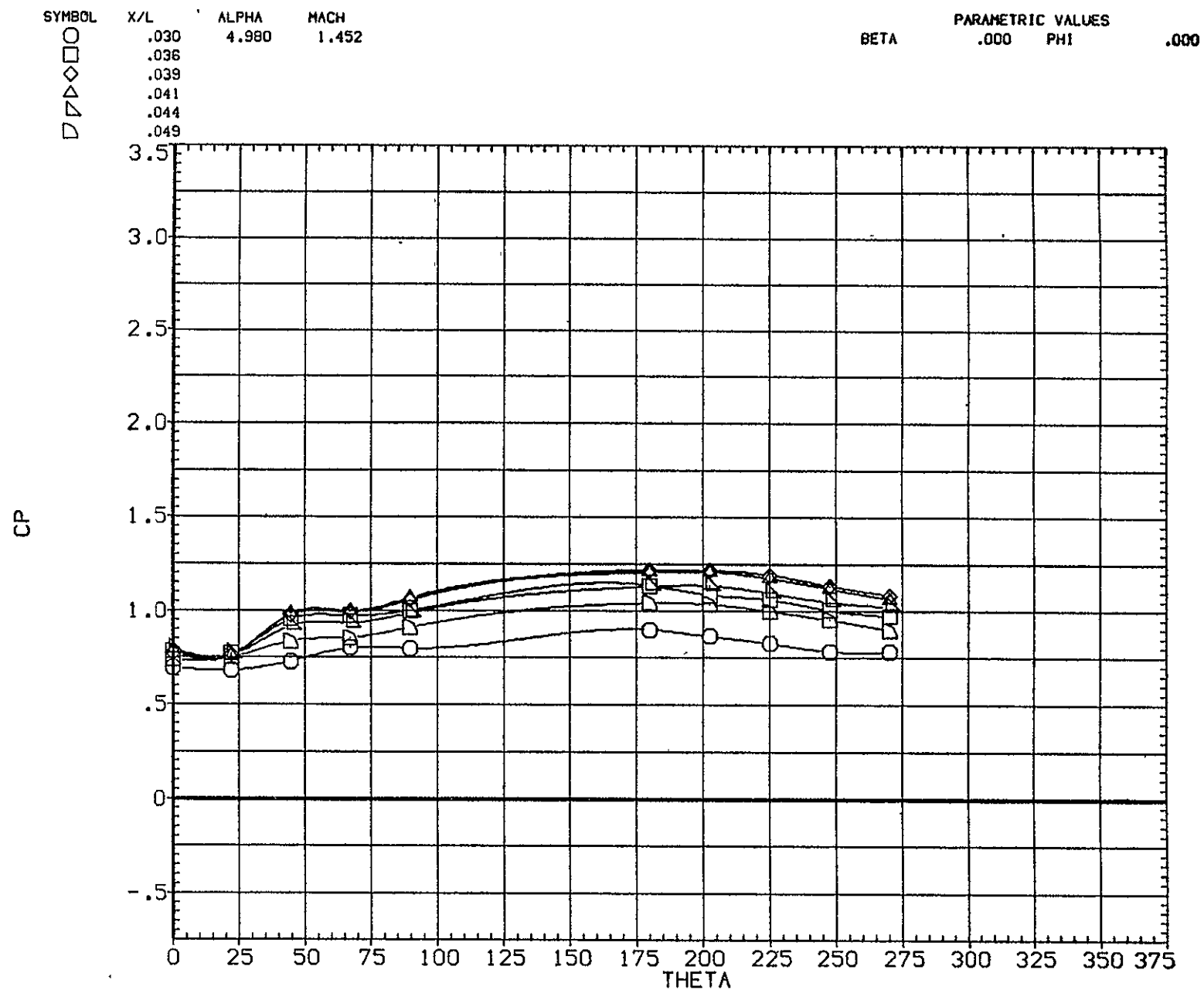
## MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16011)

SYMBOL	X/L	ALPHA	MACH	BETA	PARAMETRIC VALUES		
○	.016	4.980	1.452		.000	PHI	.000
□	.018						
◇	.020						
△	.022						
▽	.025						
◇	.028						



EFFECT OF RADIAL LOCATION ON PRESSURE



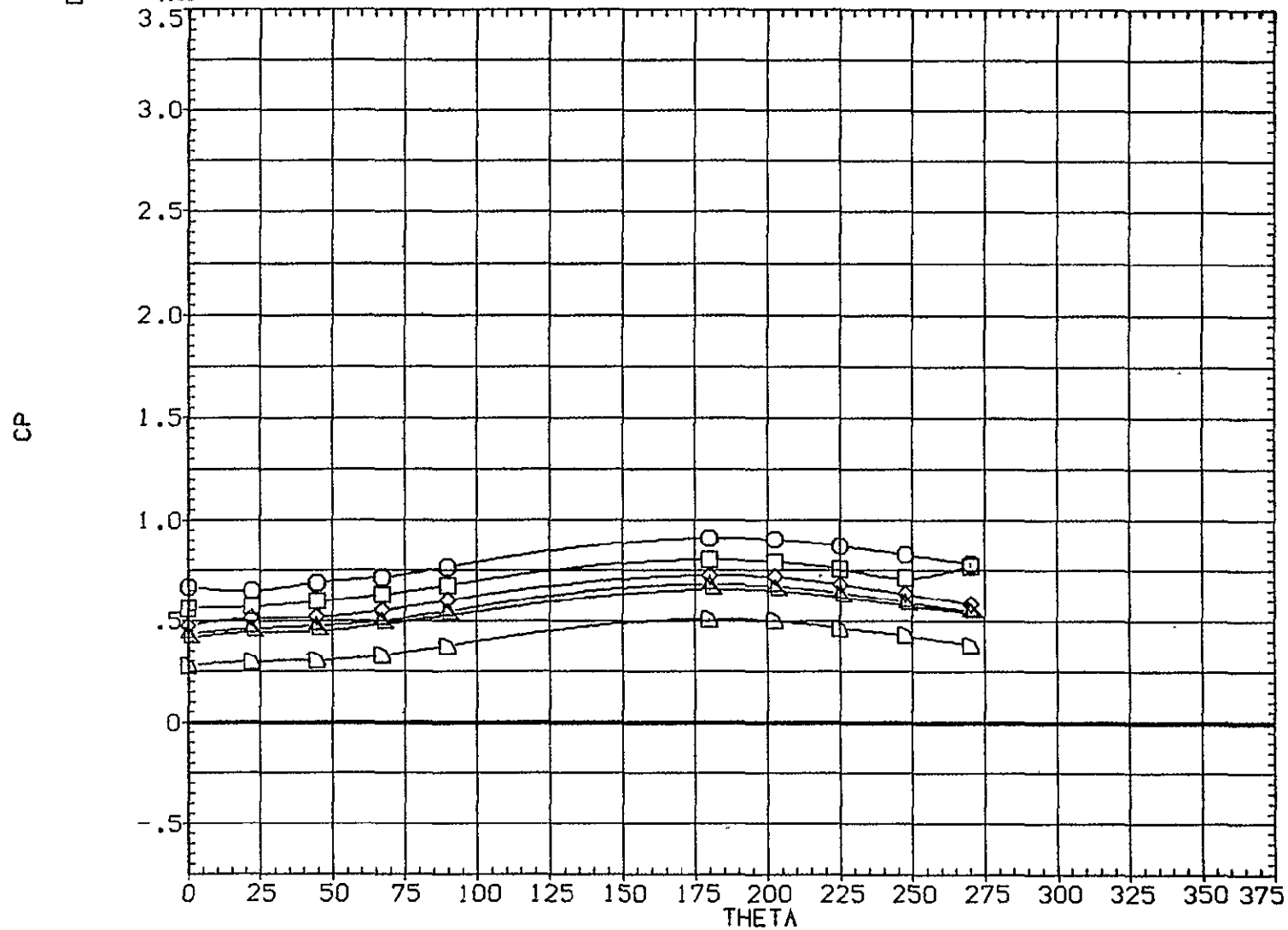
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

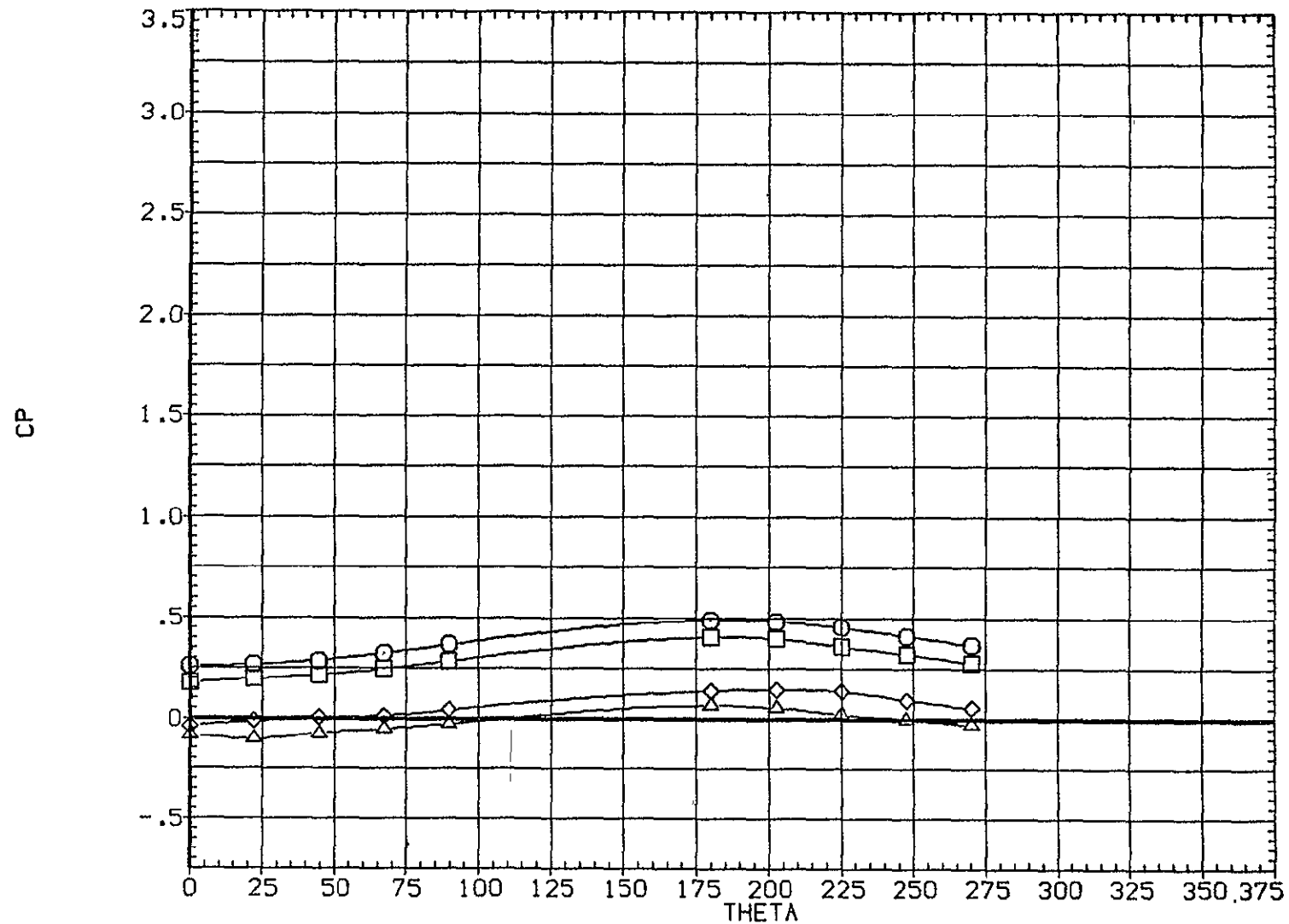
(B1G011)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	4.980	1.452			
□	.068					
◇	.077					
△	.085					
▽	.093					
◁	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

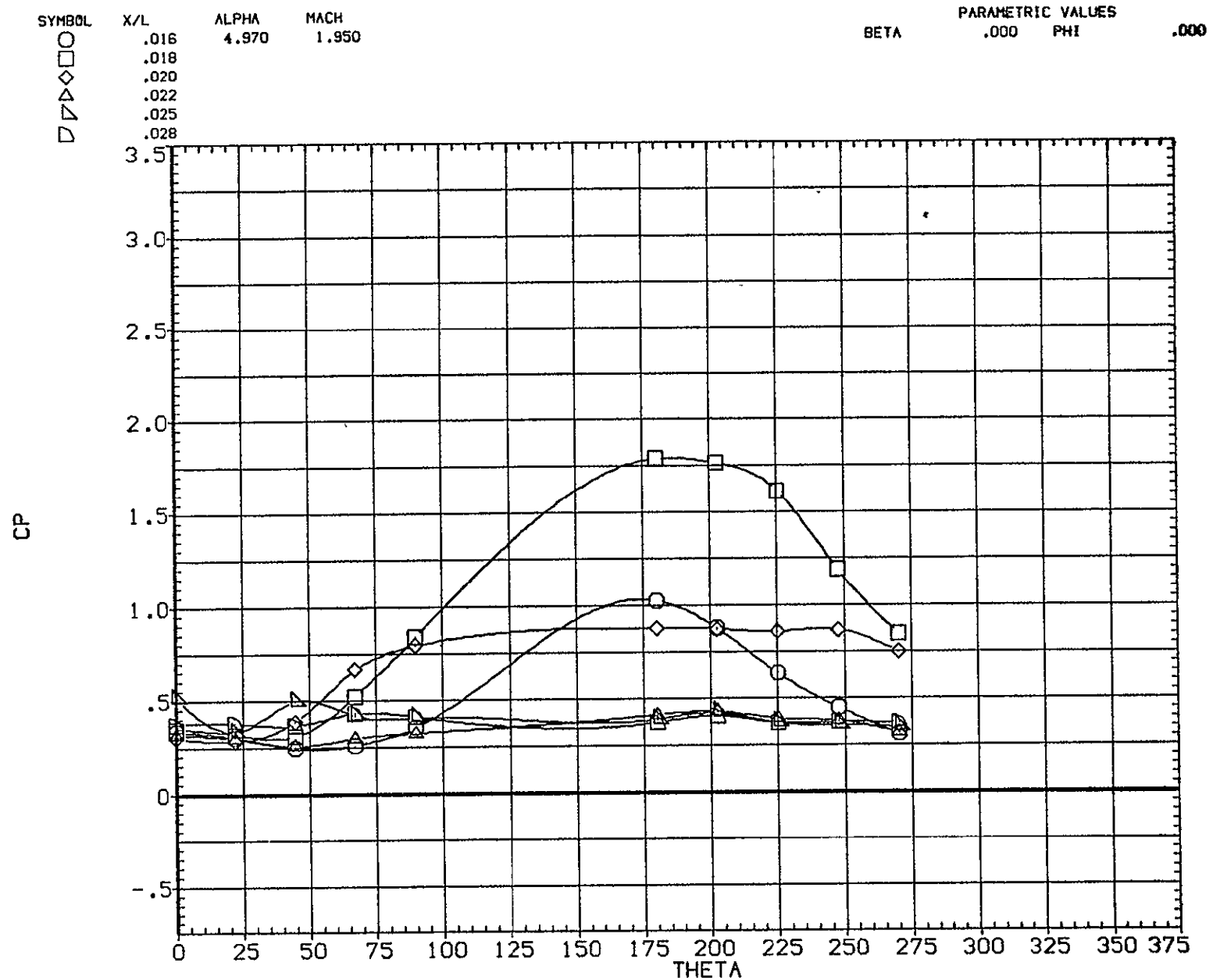
SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	4.980	1.452			
□	.131					
◇	.167					
△	.185					



EFFECT OF RADIAL LOCATION ON PRESSURE

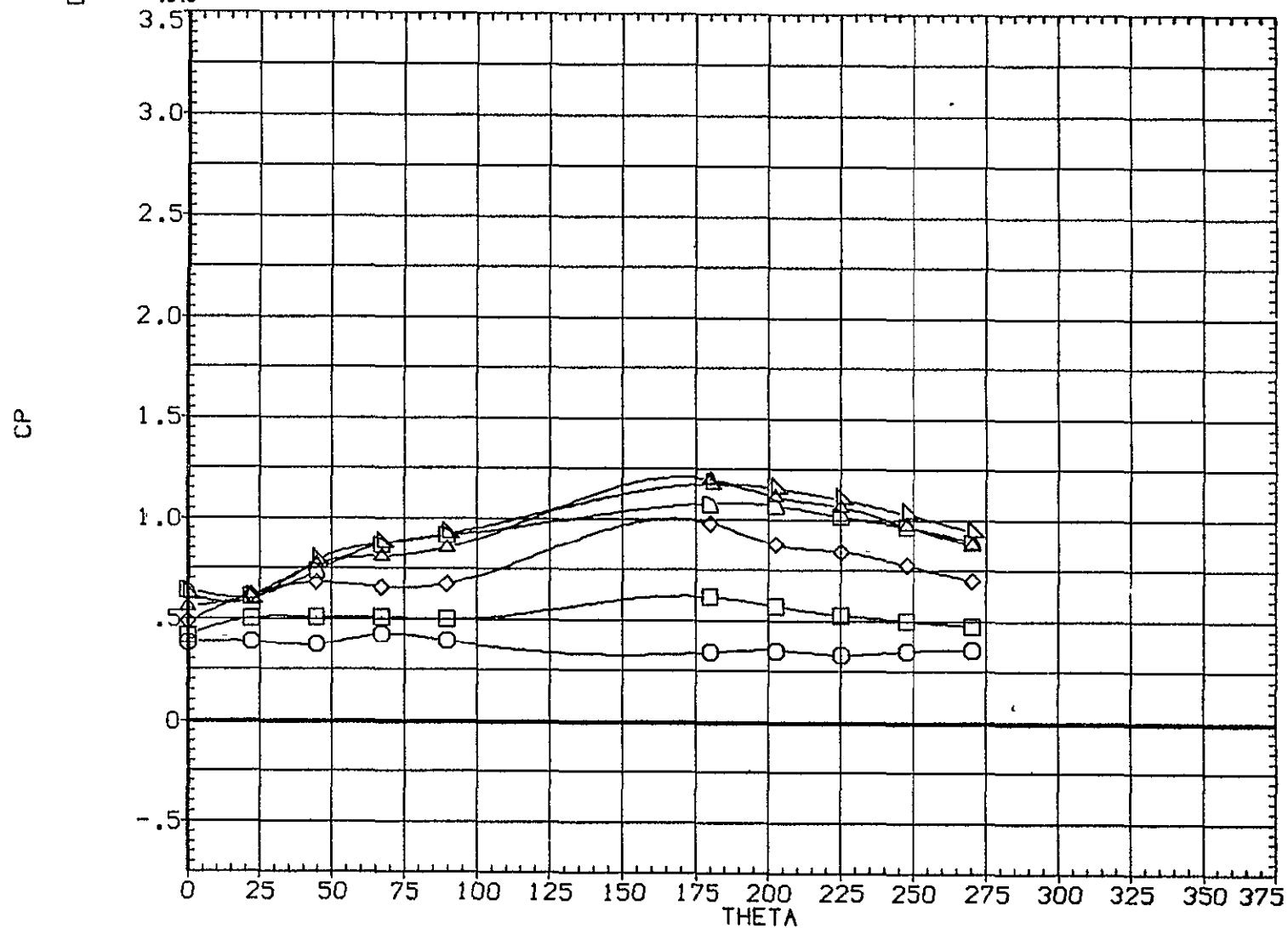
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G011)



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.030	4.970	1.950			
□	.036					
◇	.039					
△	.041					
▽	.044					
◻	.049					

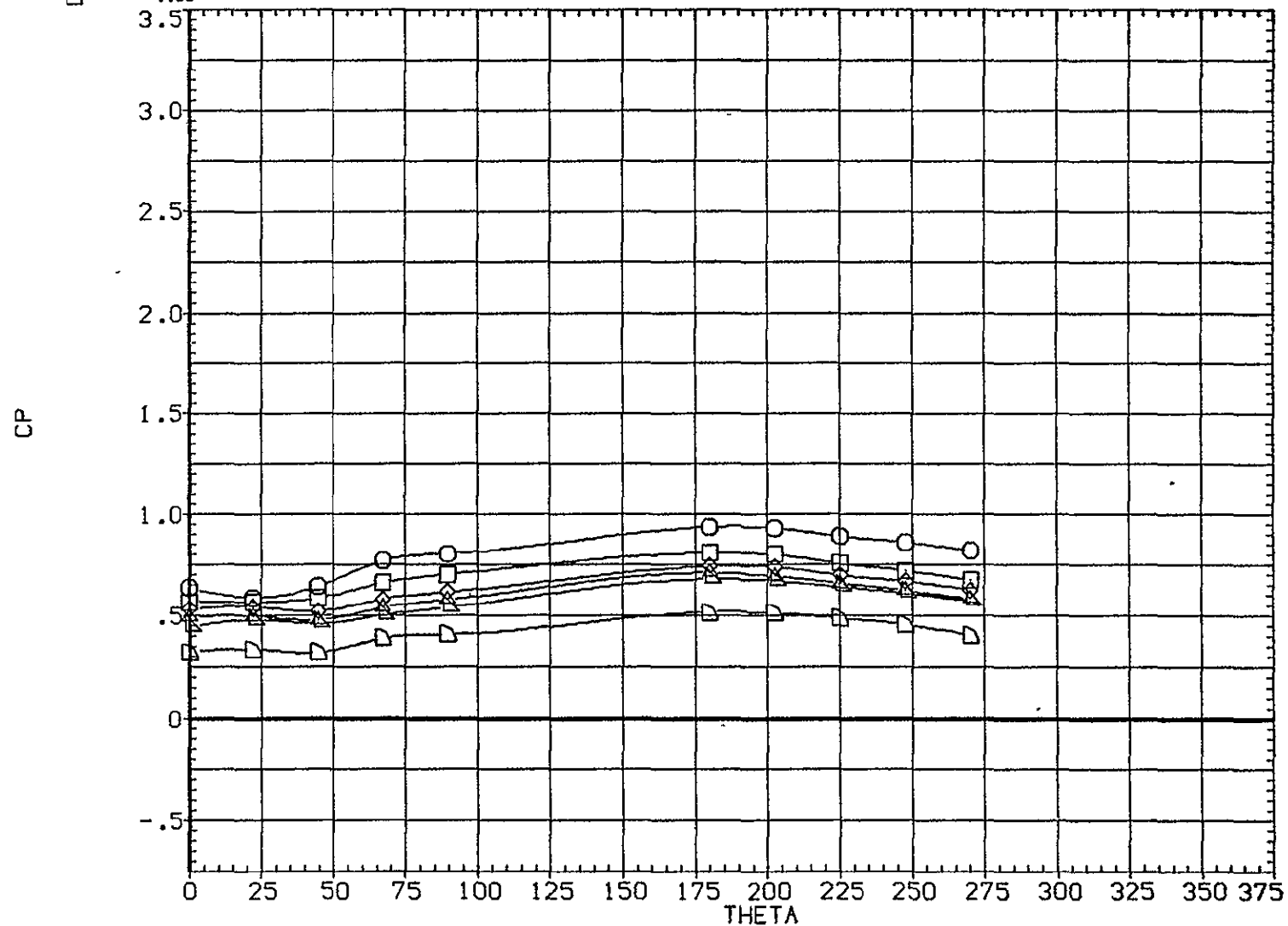


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

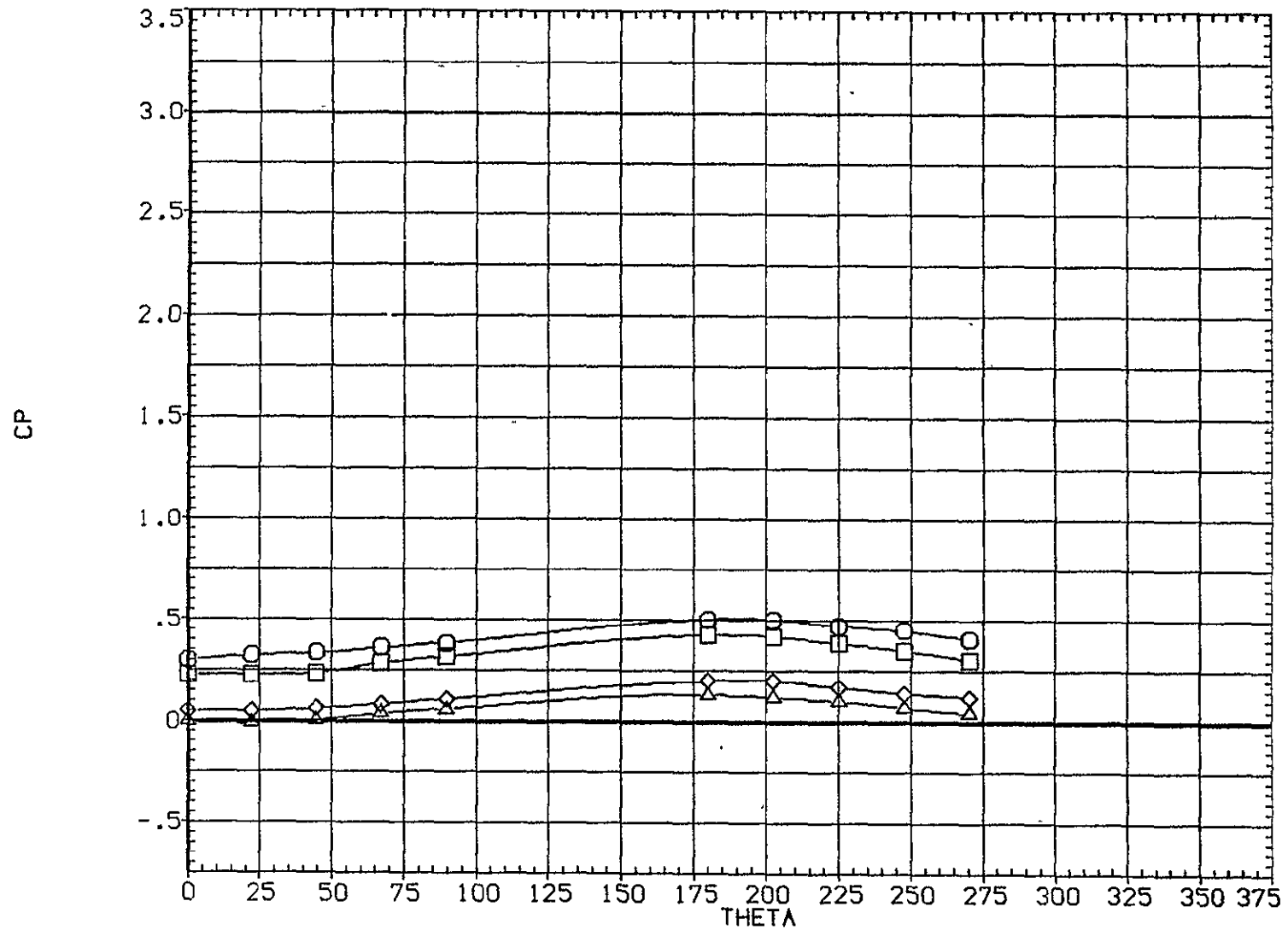
(B1G011)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	.000
○	.058	4.970	1.950			
□	.068					
◇	.077					
△	.085					
▽	.093					
▷	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	4.970	1.950			
□	.131					
◇	.167					
△	.185					

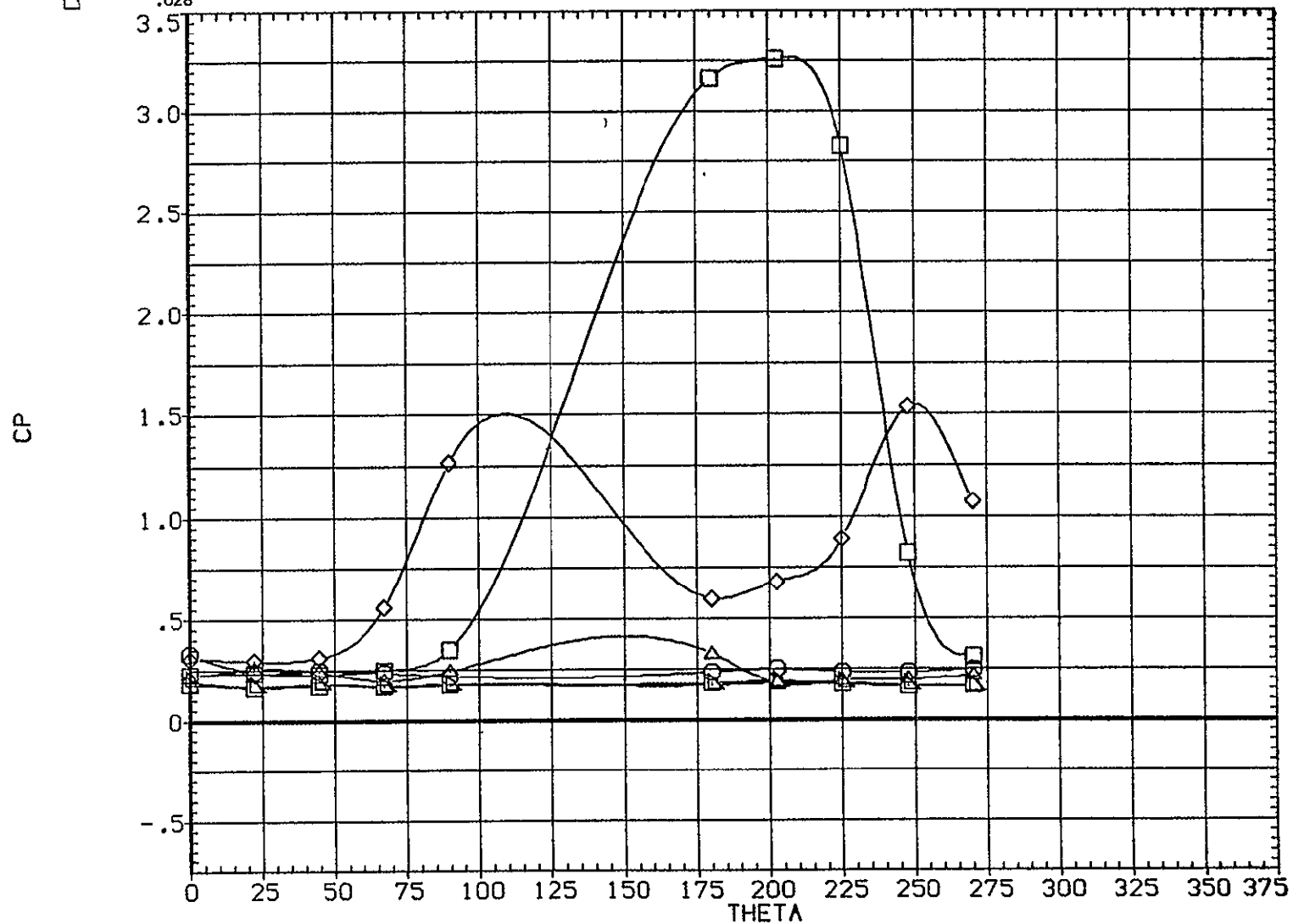


EFFECT OF RADIAL LOCATION ON PRESSURE

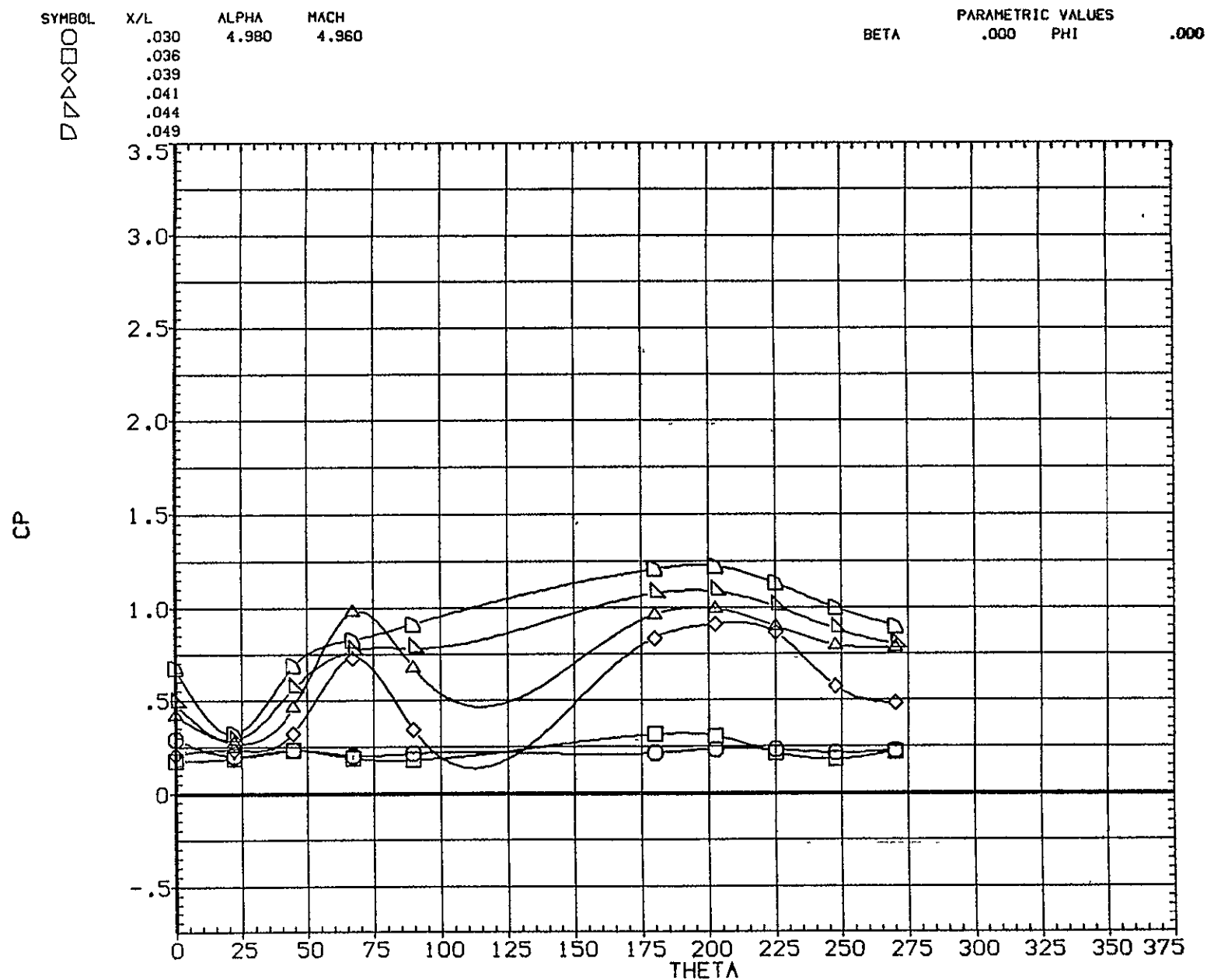
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G011)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.016	4.980	4.960			
□	.018					
◇	.020					
△	.022					
▽	.025					
◇	.028					



EFFECT OF RADIAL LOCATION ON PRESSURE



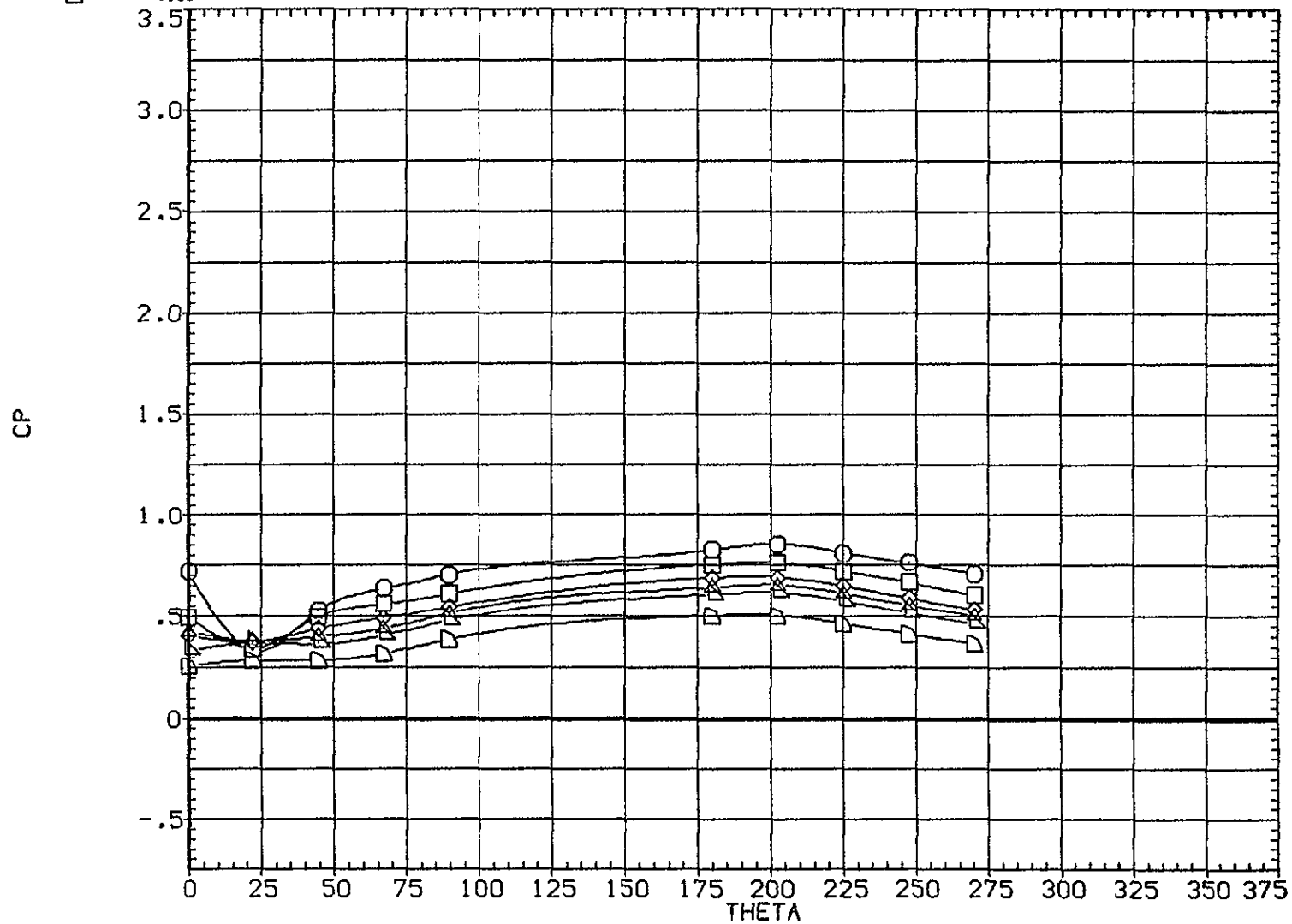
EFFECT OF RADIAL LOCATION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

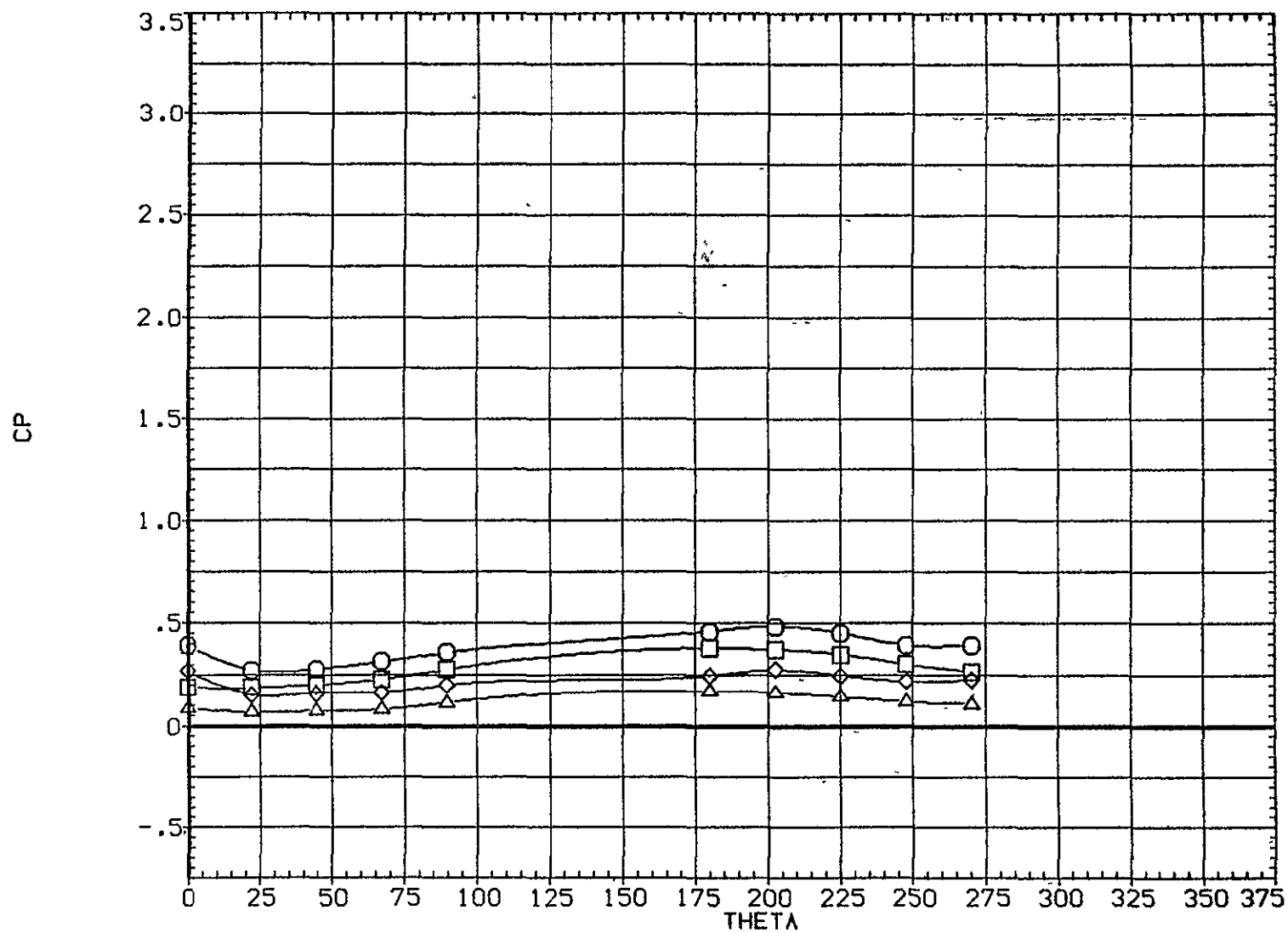
(B16011)

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.058	4.980	4.960	.000		.000
□	.068					
◇	.077					
△	.085					
▽	.093					
◻	.106					



EFFECT OF RADIAL LOCATION ON PRESSURE

SYMBOL	X/L	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.118	4.980	4.960			
□	.131					
◇	.167					
△	.185					

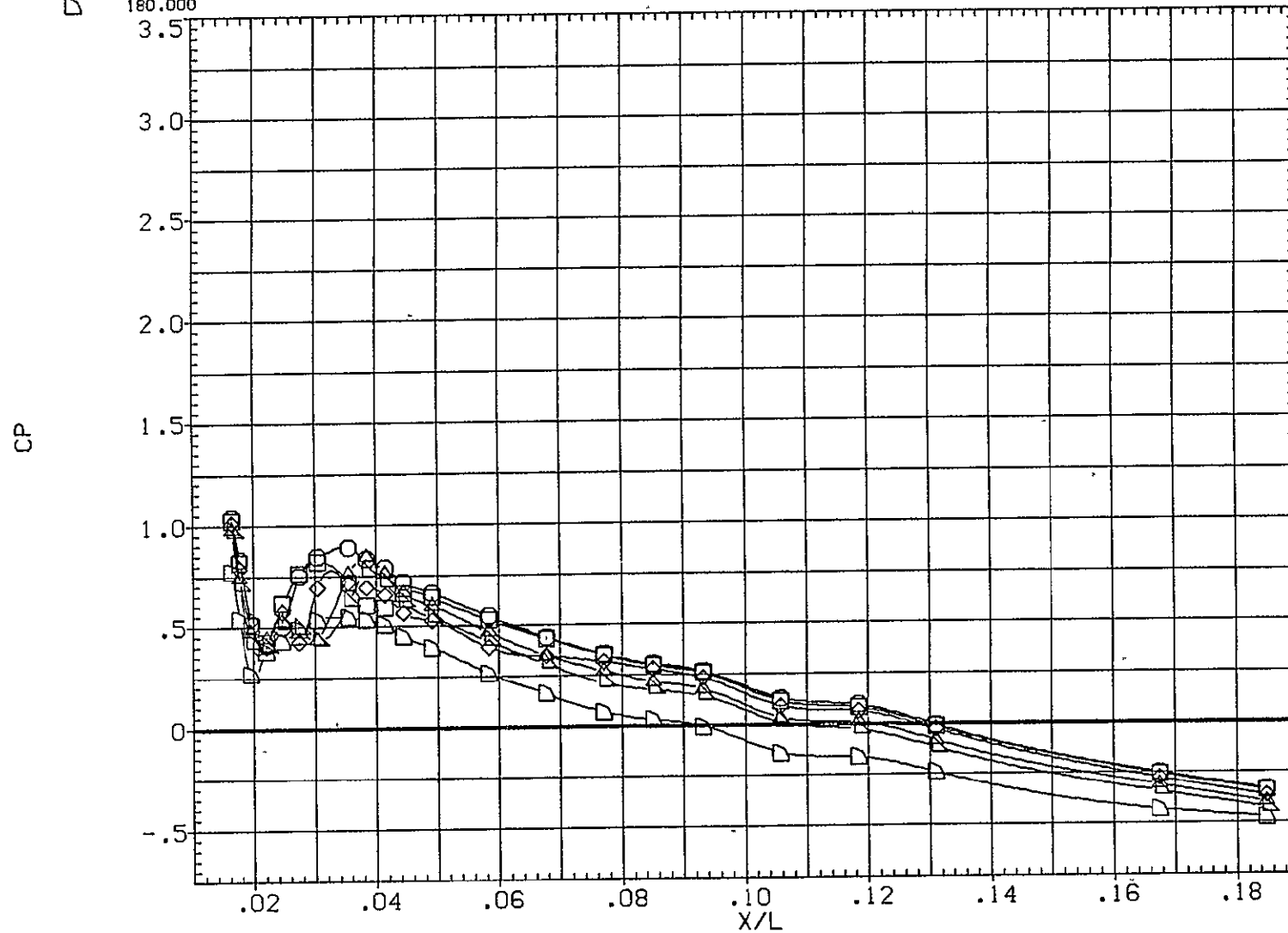


EFFECT OF RADIAL LOCATION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

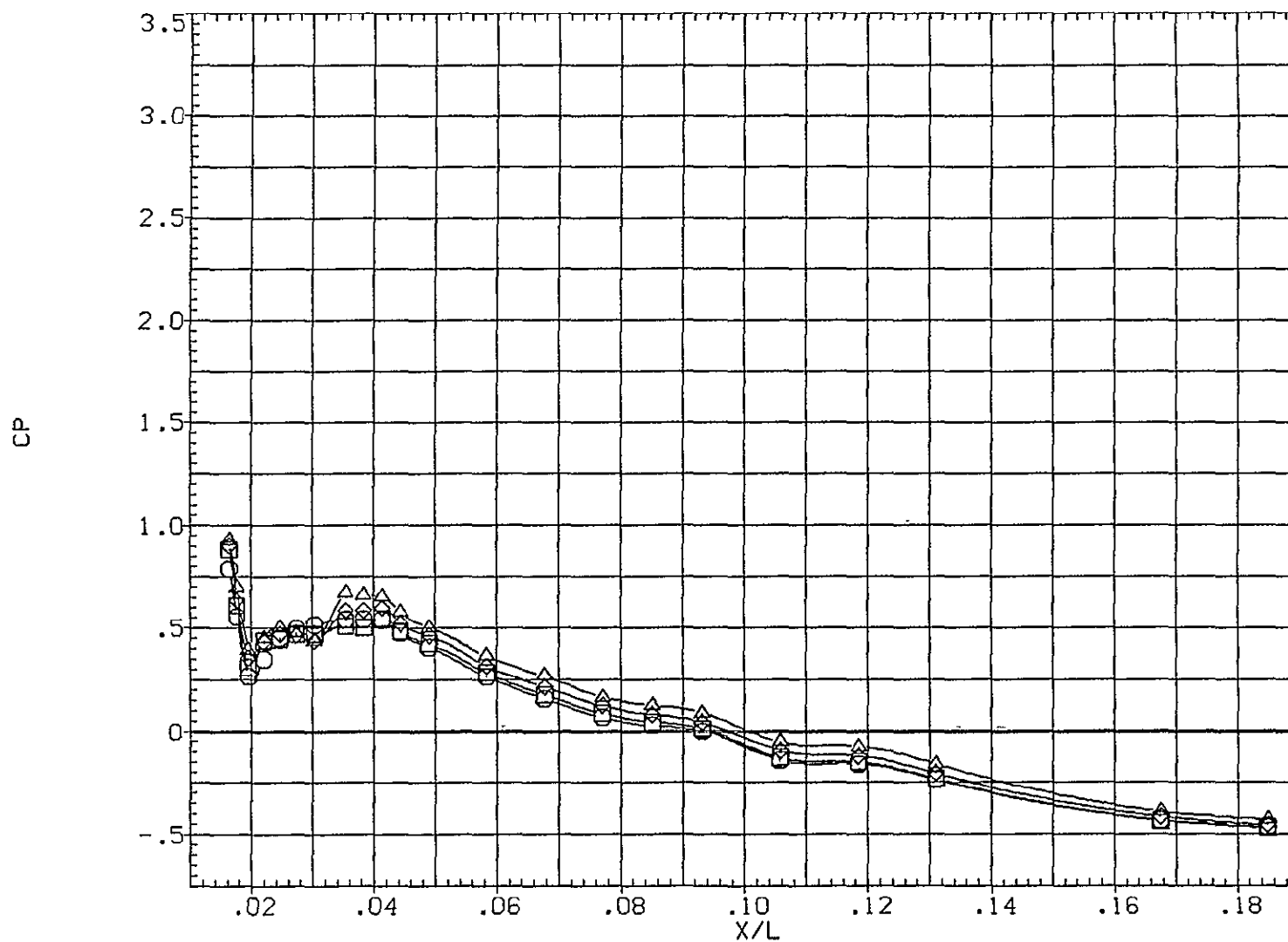
(B1G001)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
	.000	-5.040	.599	BETA	.000	PHI
○	22.500					
◇	45.000					
△	67.500					
▽	90.000					
□	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	-5.040	.599		.000		.000
□	225.000						
◇	247.500						
△	270.000						

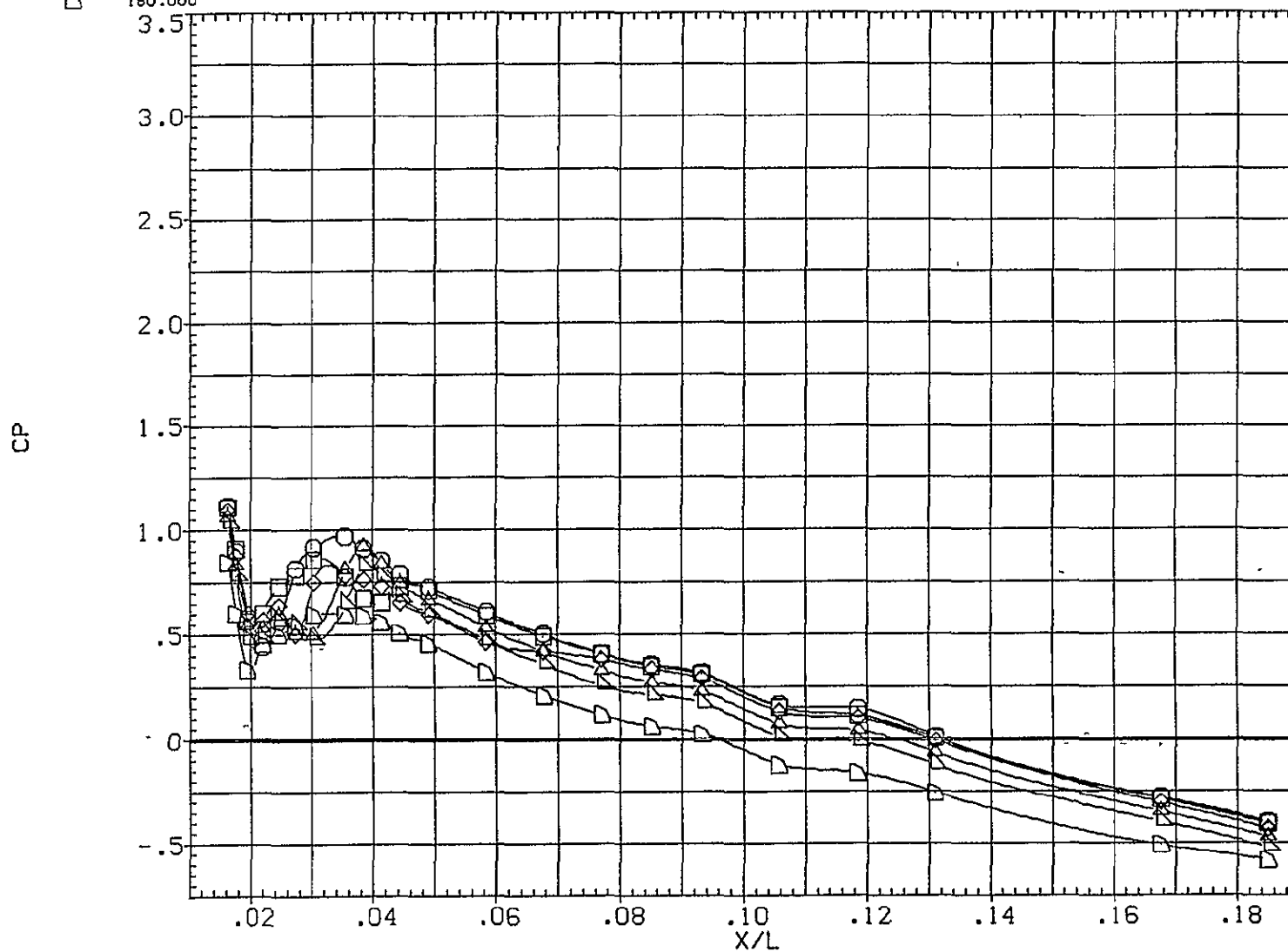


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

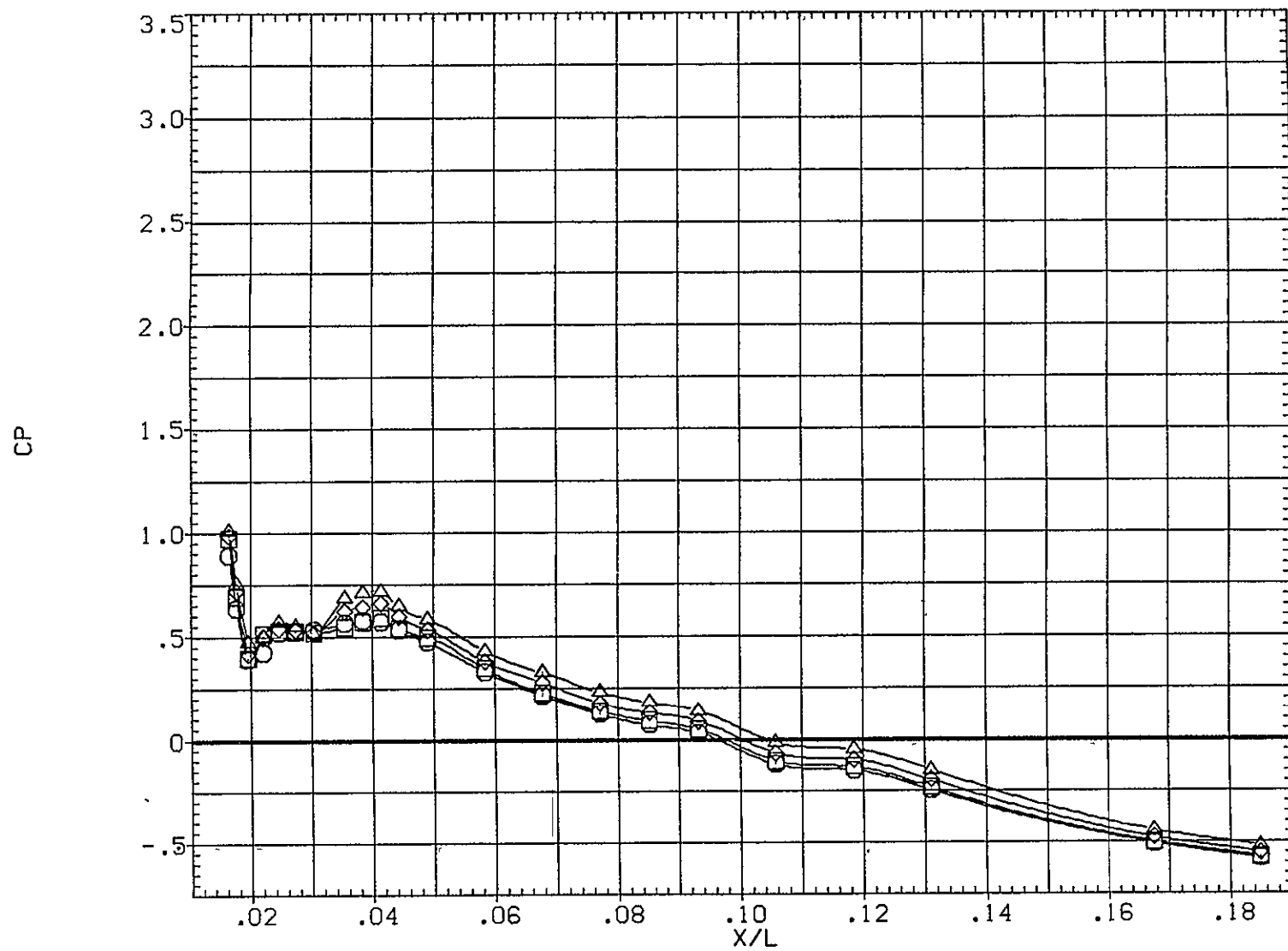
(B1G001)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-5.040	.801	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◻	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	+
○	202.500	-5.040	.801		.000		.000
□	225.000						
◇	247.500						
△	270.000						

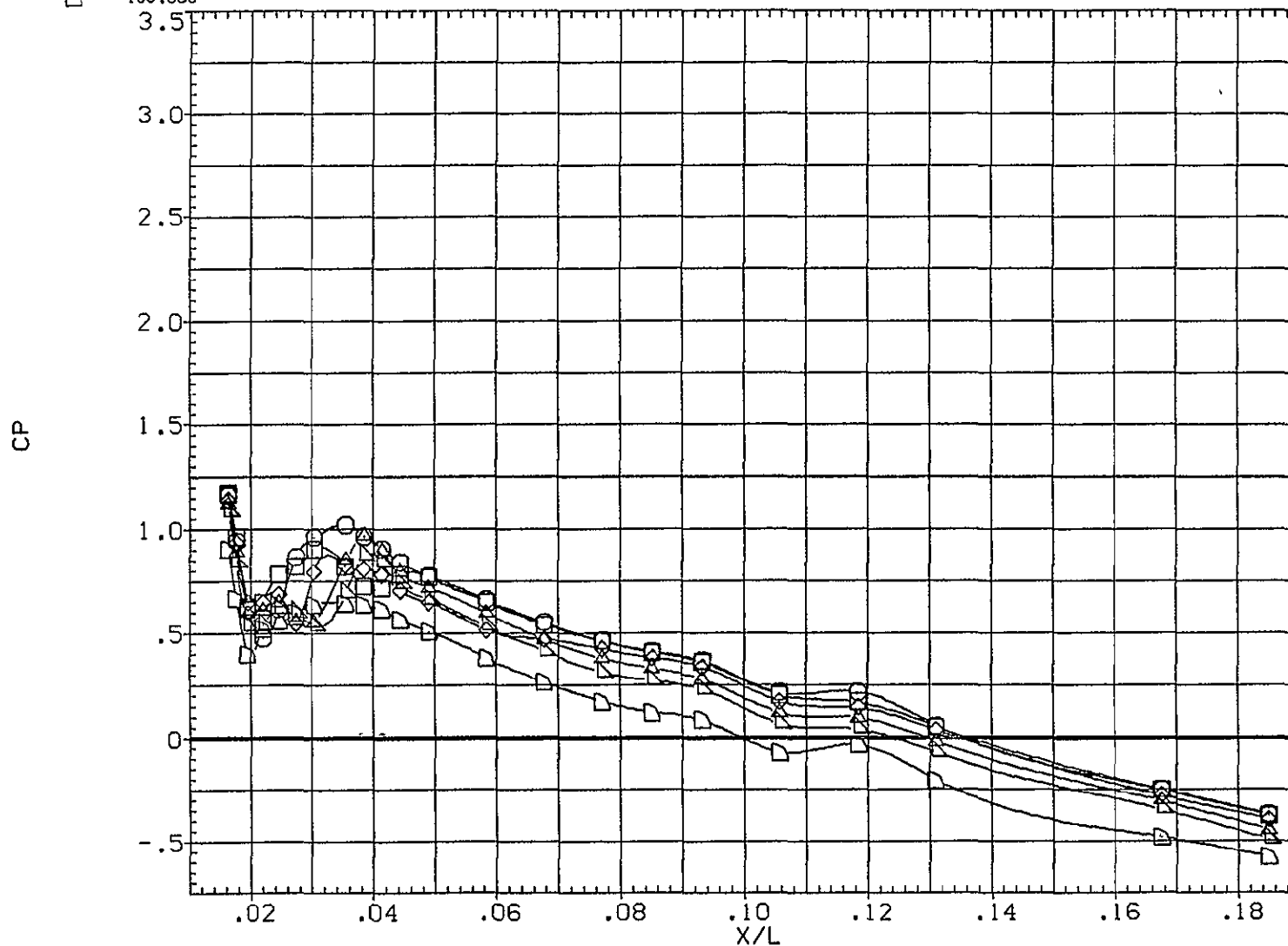


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G001)

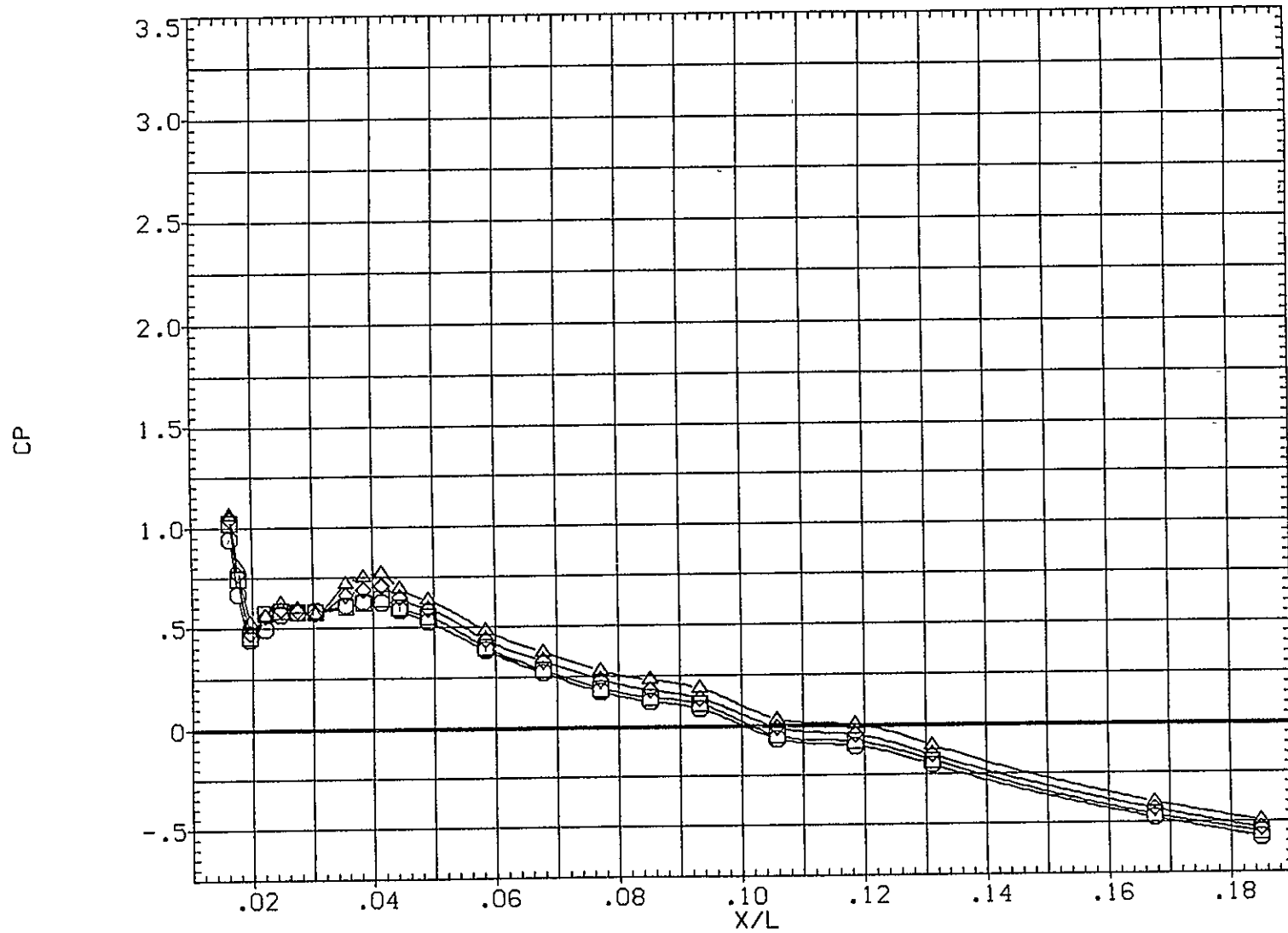
SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.000	-5.040	.905				.000
□	22.500						
◇	45.000						
△	67.500						
▽	90.000						
◻	180.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH
○	202.500	-5.040	.905
□	225.000		
◇	247.500		
△	270.000		

BETA	PARAMETRIC VALUES	PHI	.000
------	-------------------	-----	------



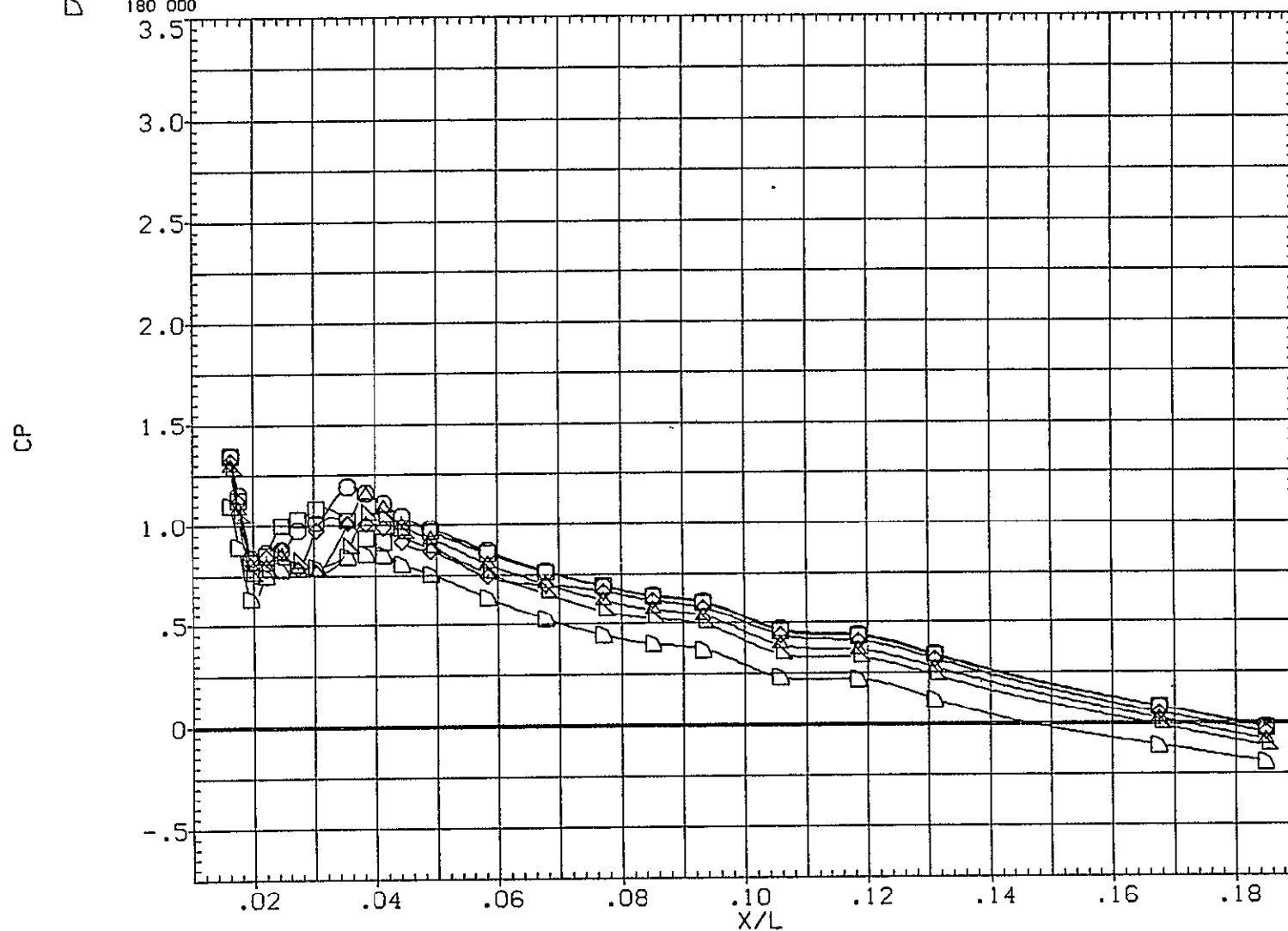
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

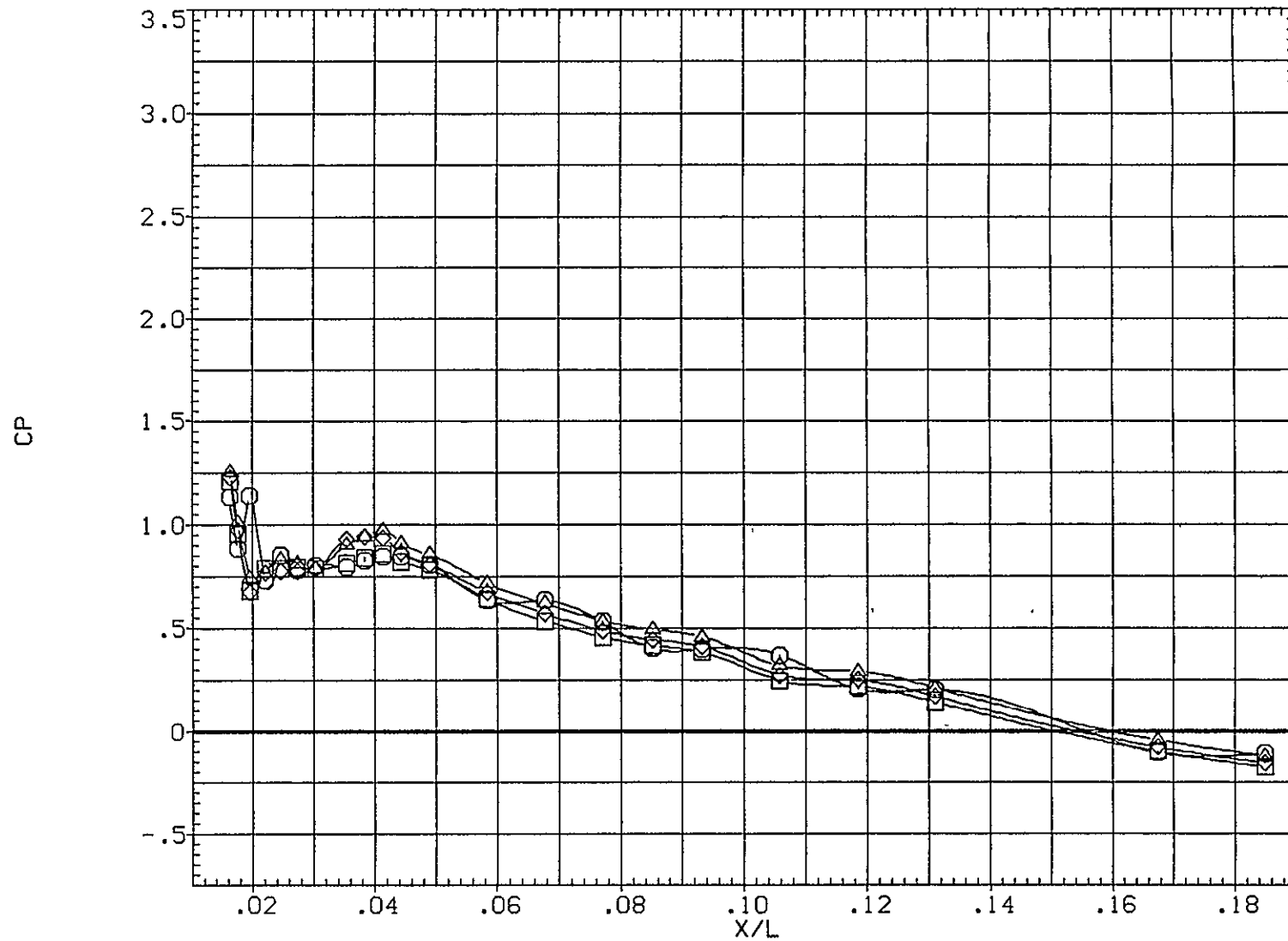
(B1G001)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-5.040	1.203	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◁	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	-5.040	1.203				.000
□	225.000						
◇	247.500						
△	270.000						

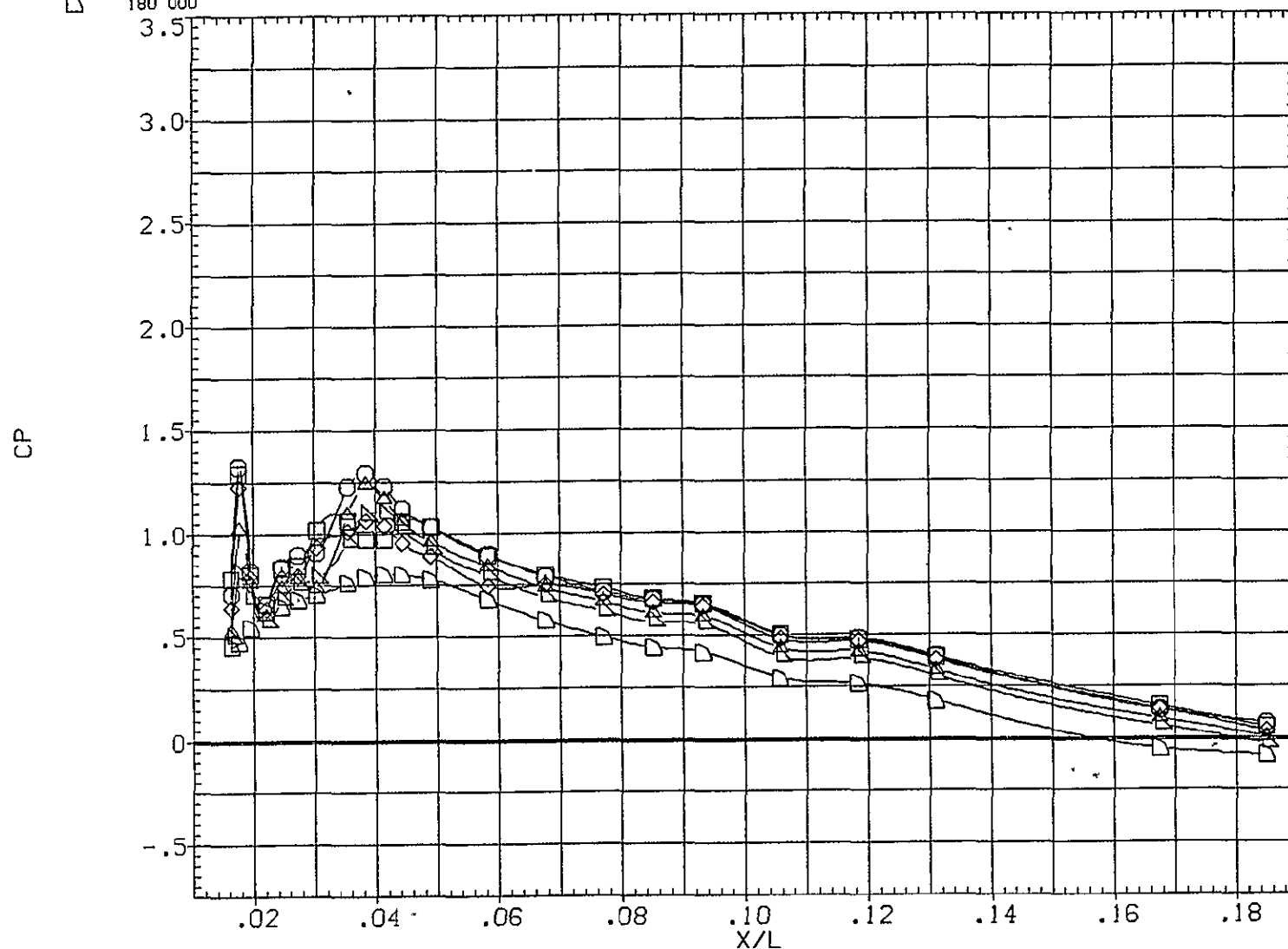


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G001)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
	BETA	.000	PHI	.000		
○	.000	-5.040	1.452			
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
▷	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL

○  
□  
◇  
△

THETA

202.500  
225.000  
247.500  
270.000

ALPHA

-5.040

MACH

1.452

PARAMETRIC VALUES

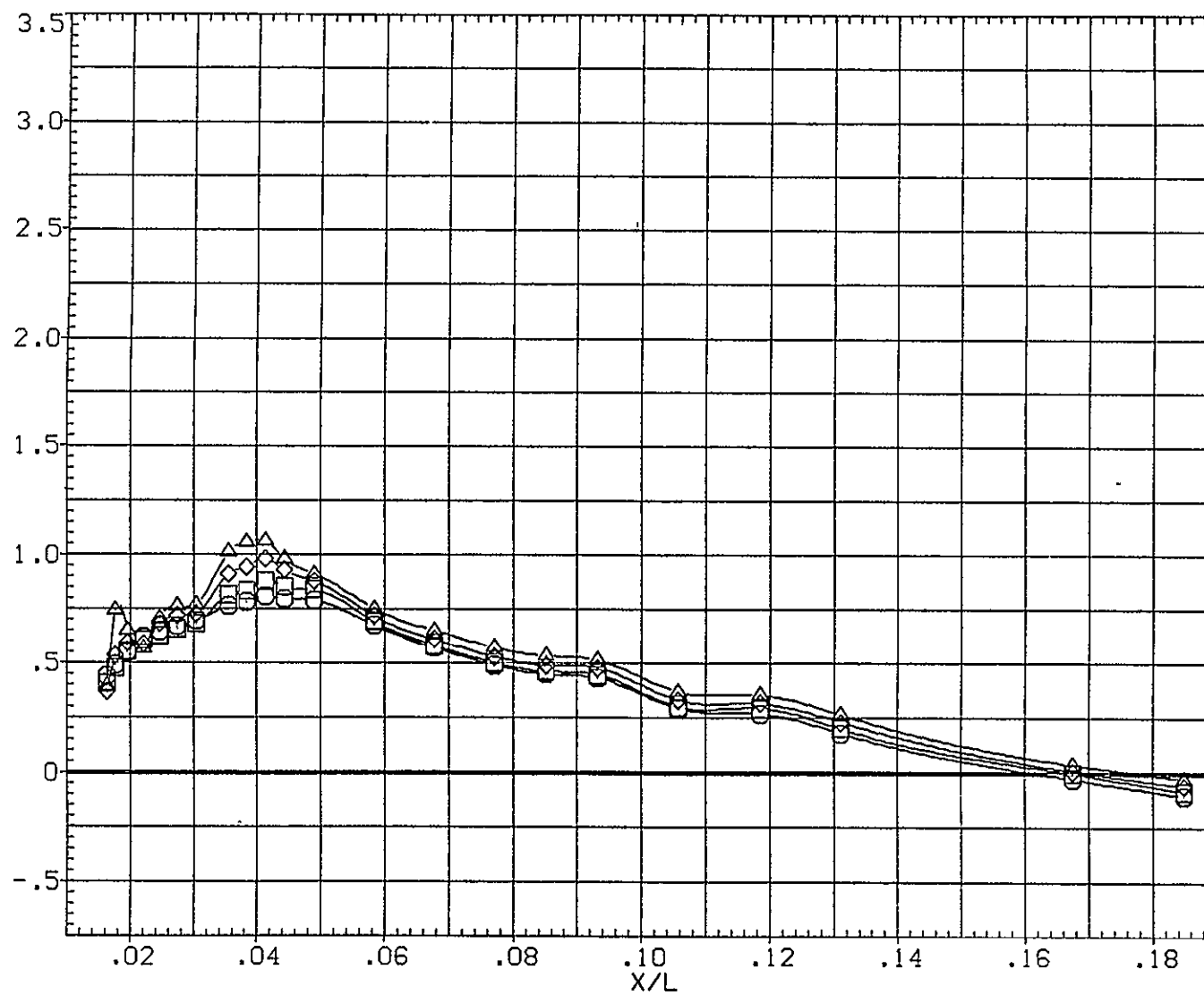
BETA

.000

PHI

.000

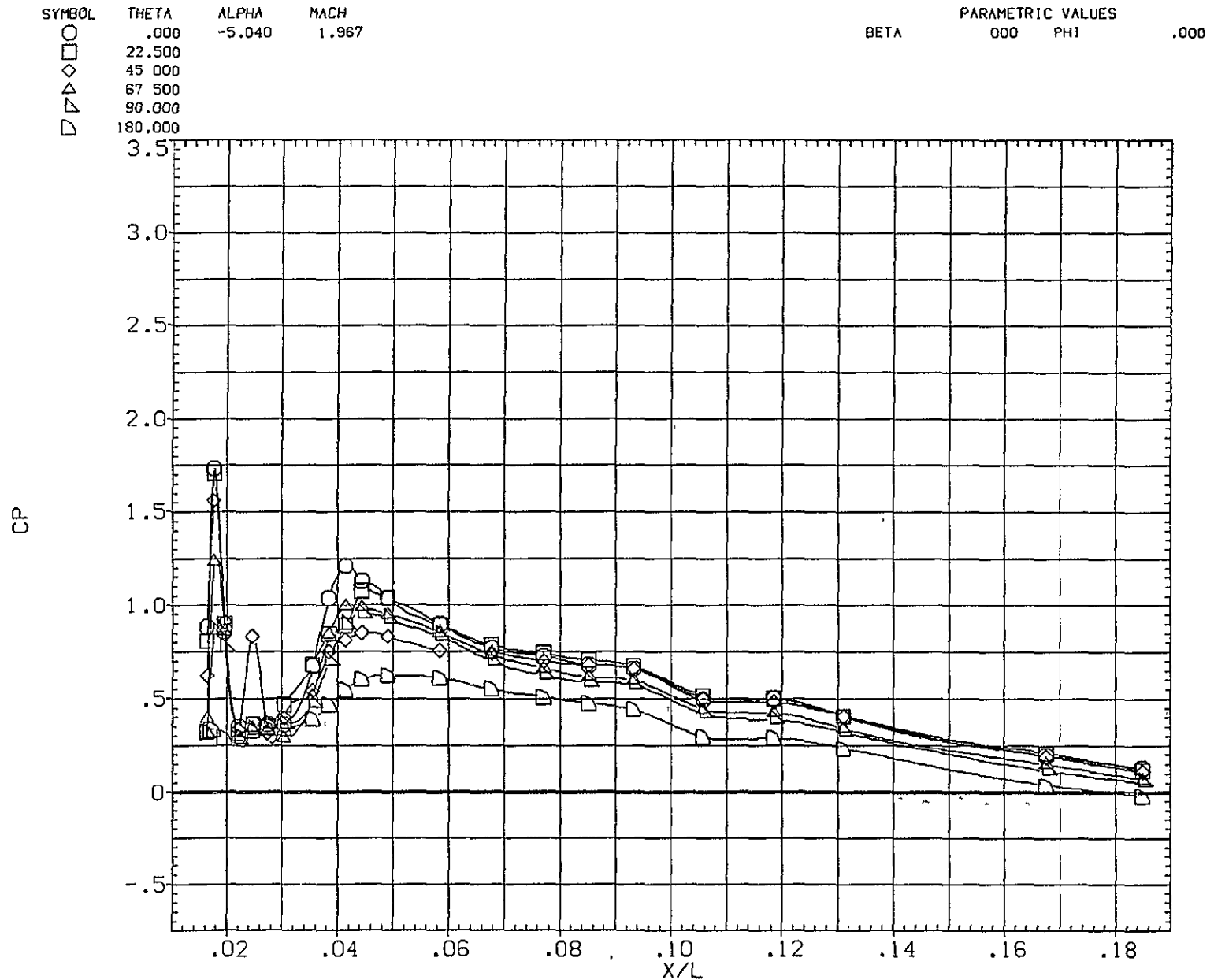
CP



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

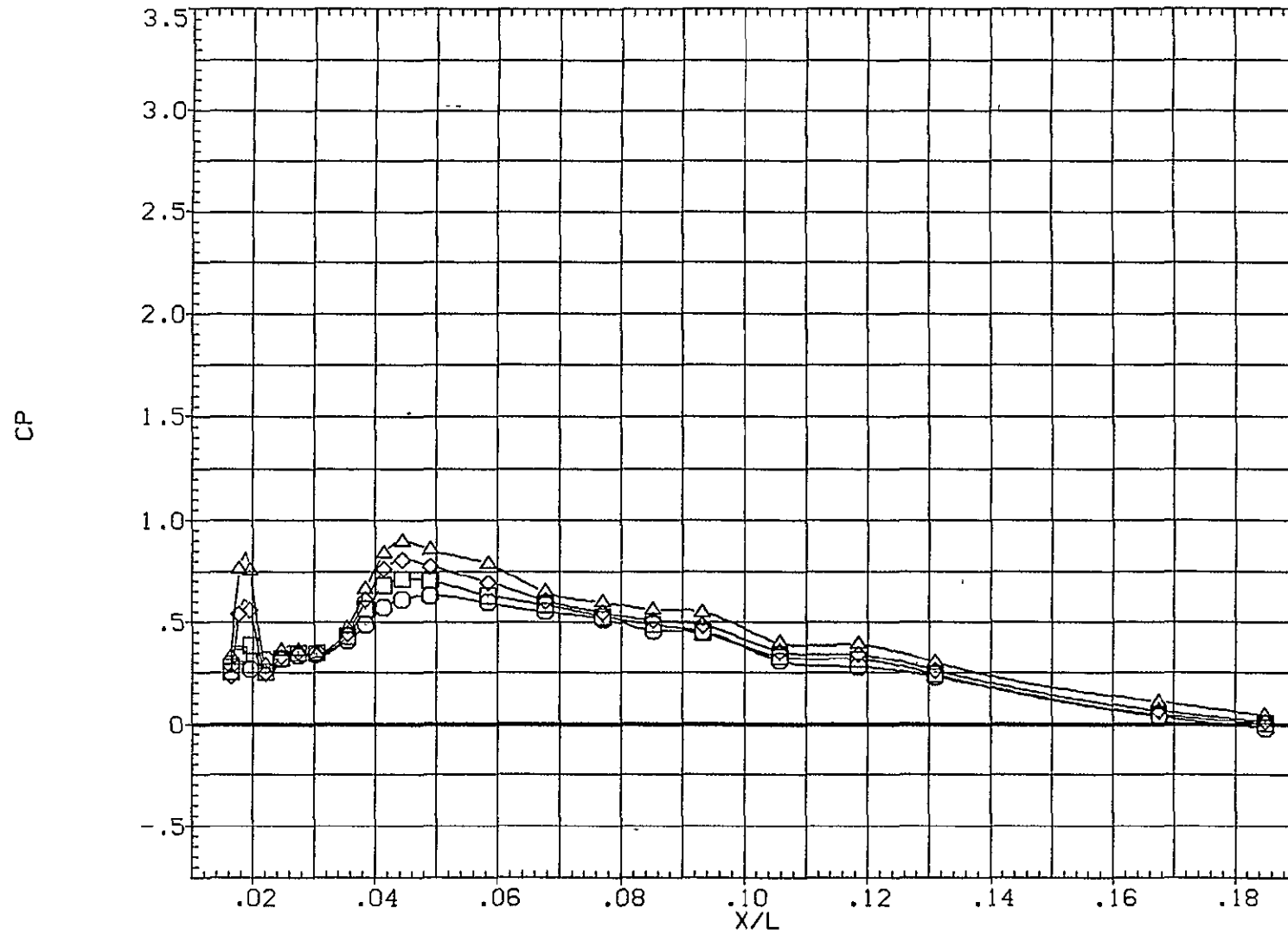
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G001)



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI
○	202.500	-5.040	1.967		.000	.000
□	225.000					
◇	247.500					
△	270.000					

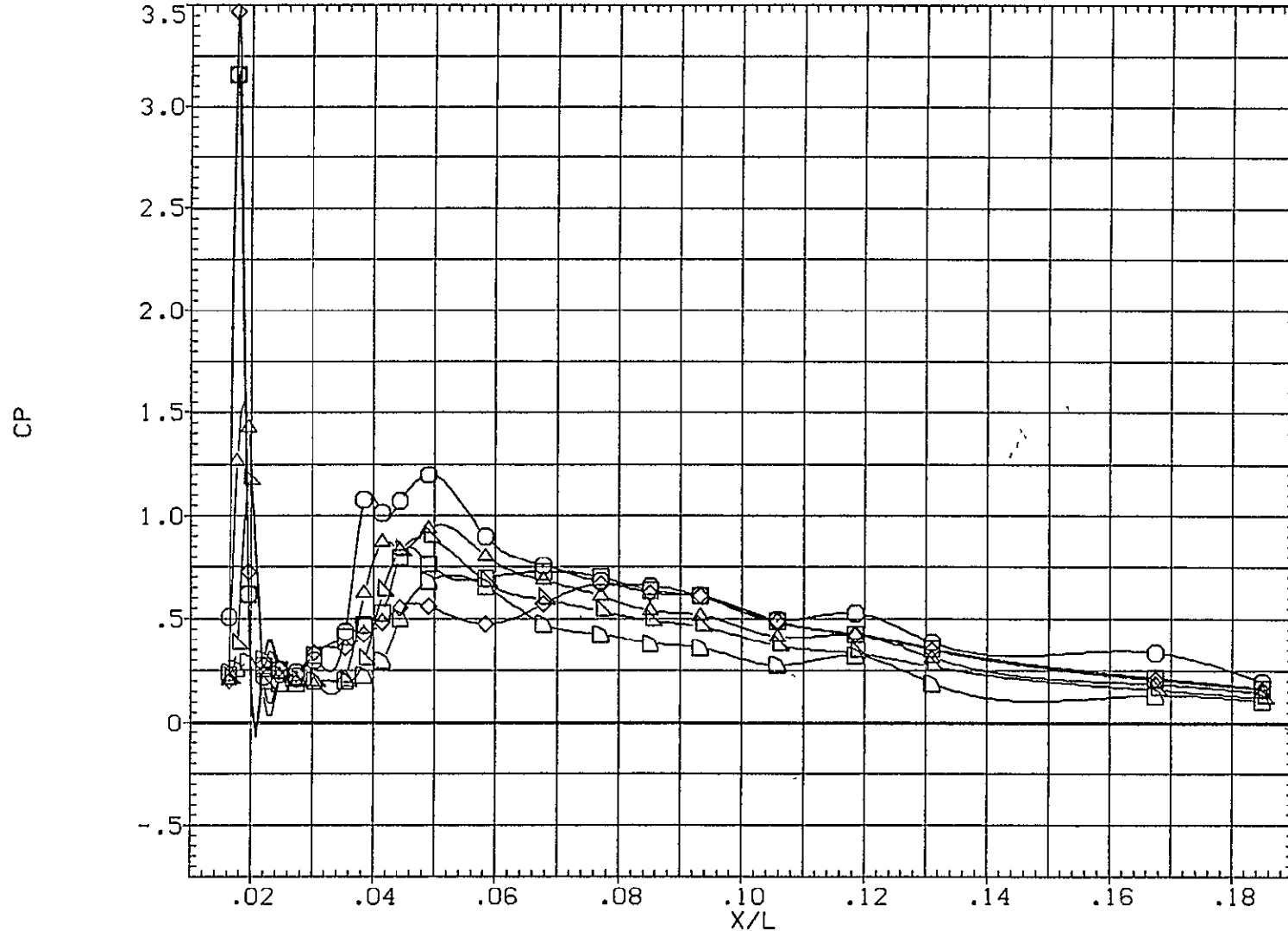


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

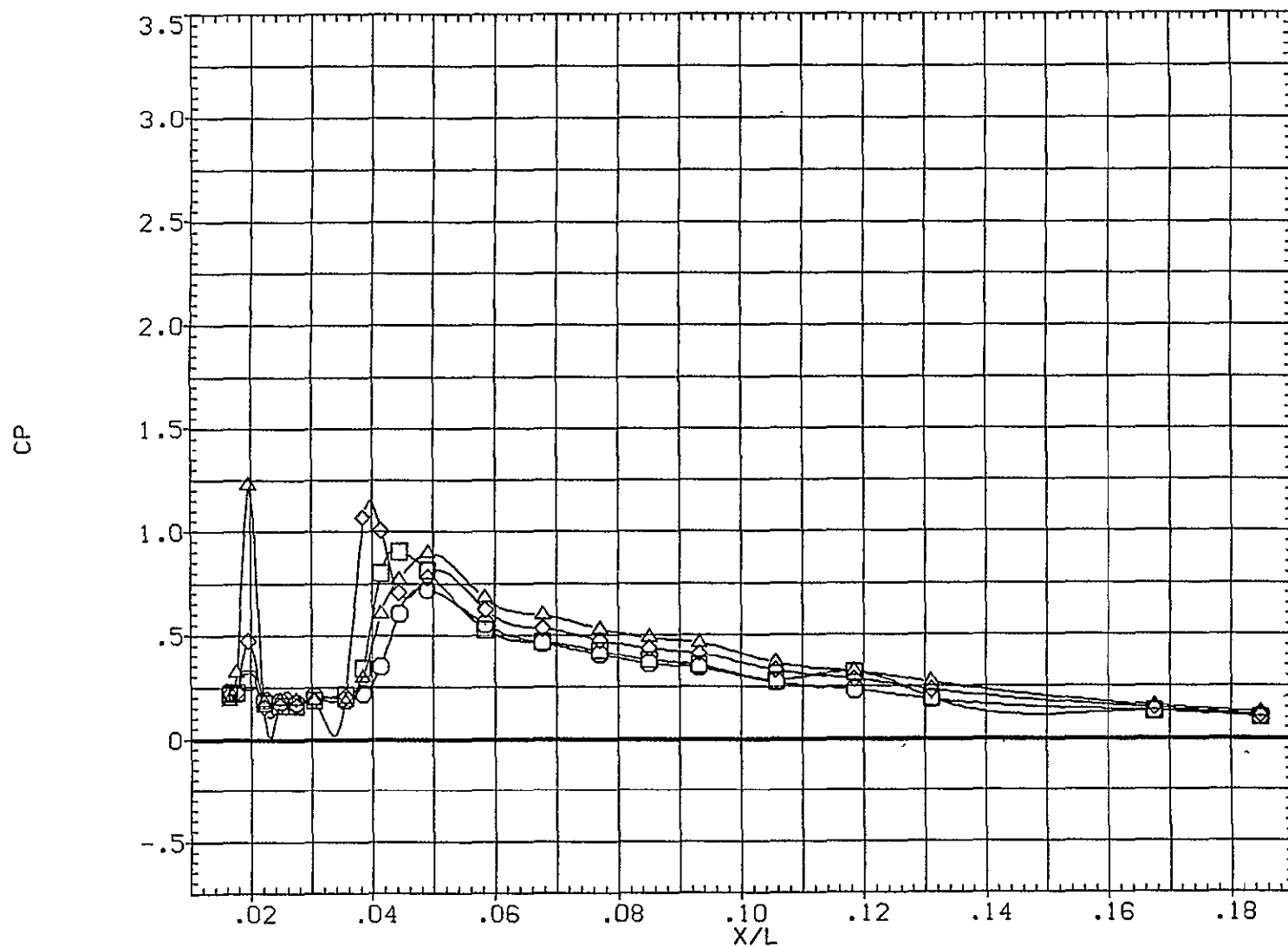
(B1G001)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000	PHI .000
○	.000	-5.040	4.960			
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
▽	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	202.500	-5.040	4.960	.000	PHI .000
□	225.000				
◇	247.500				
△	270.000				



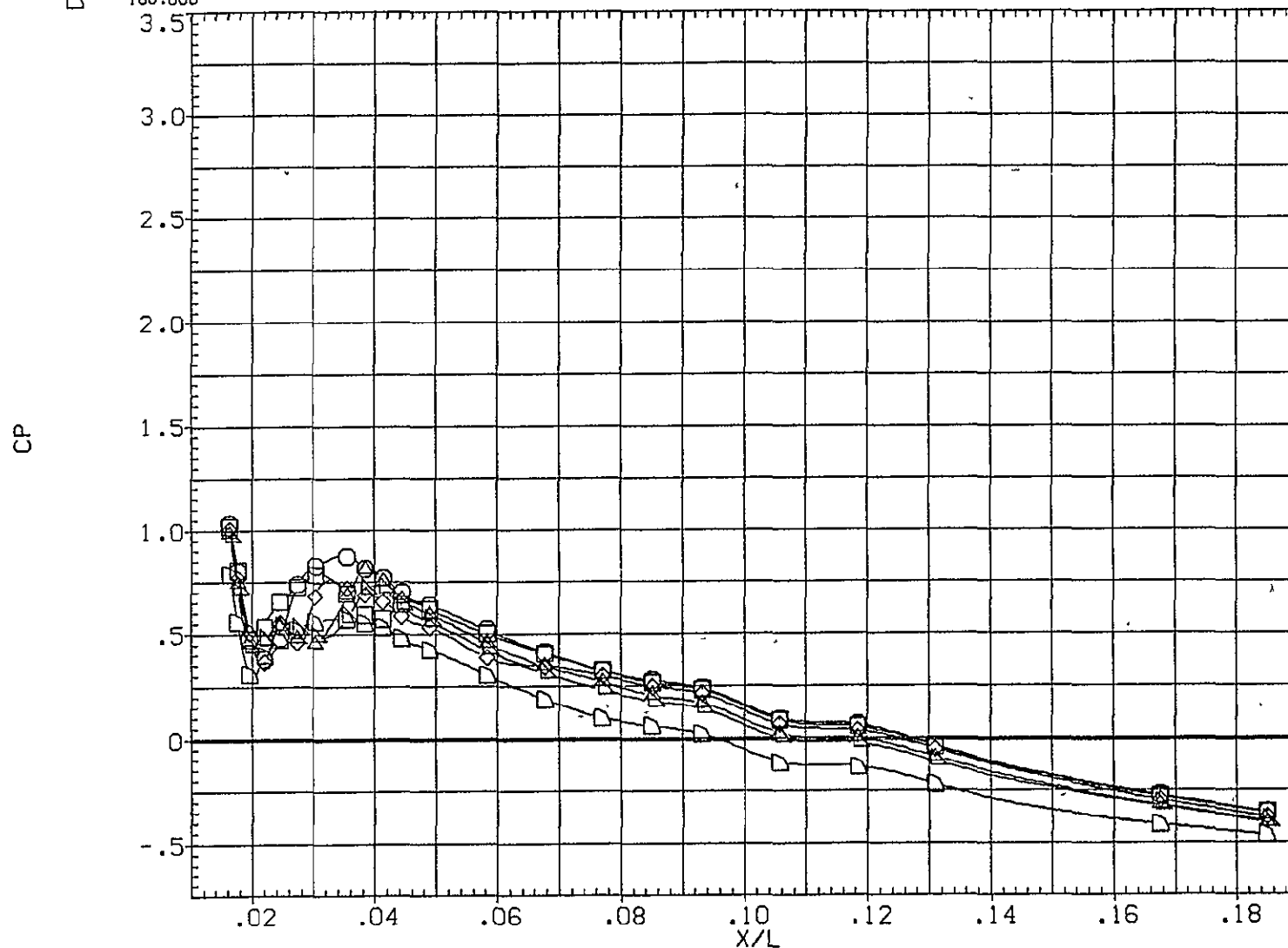
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

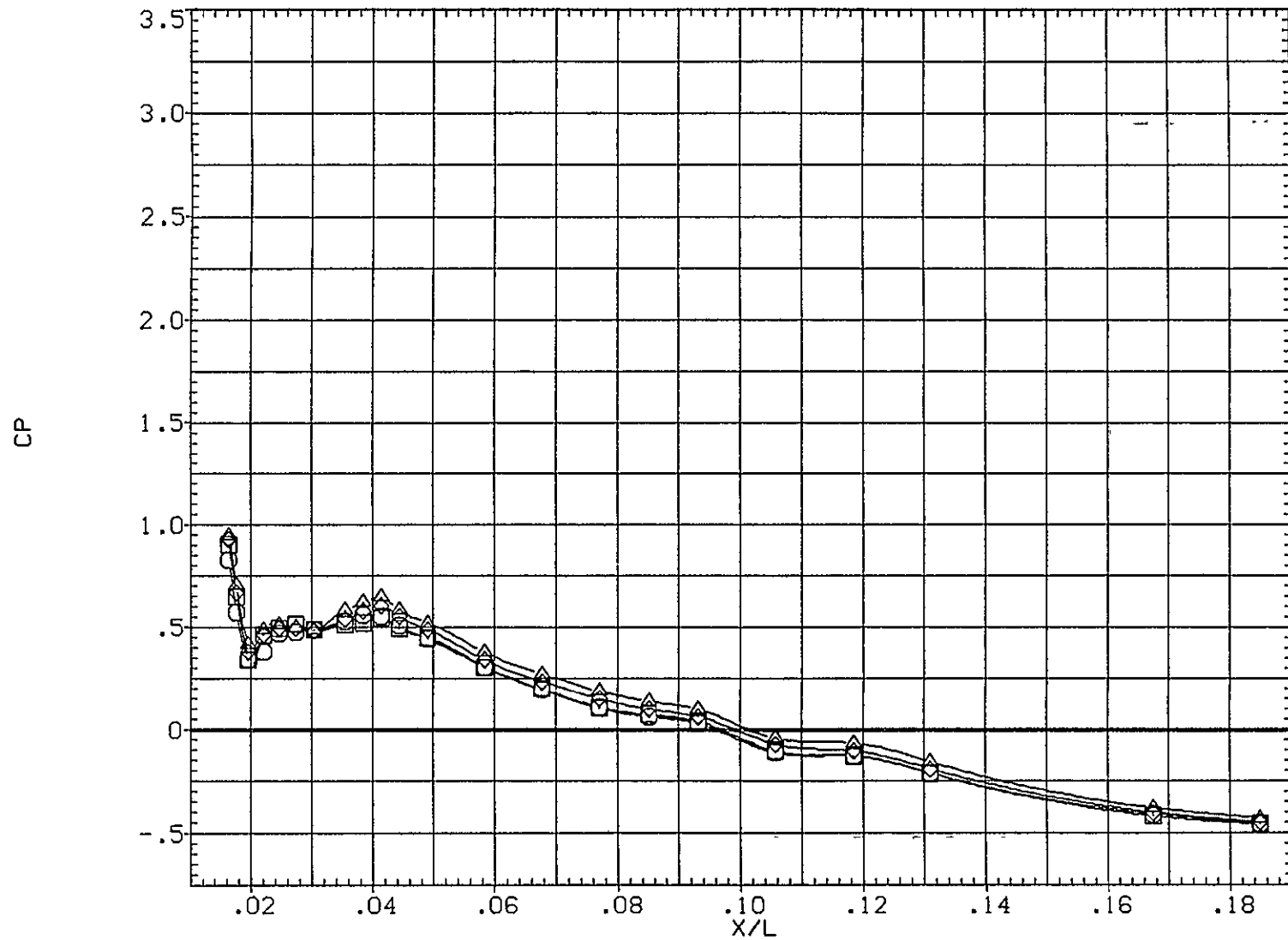
(B1G002)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.000
○	.000	-4.040	.598				
□	22.500						
◇	45.000						
△	67.500						
▽	90.000						
◇	180.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	-4.040	.598		.000		.000
□	225.000						
◇	247.500						
△	270.000						

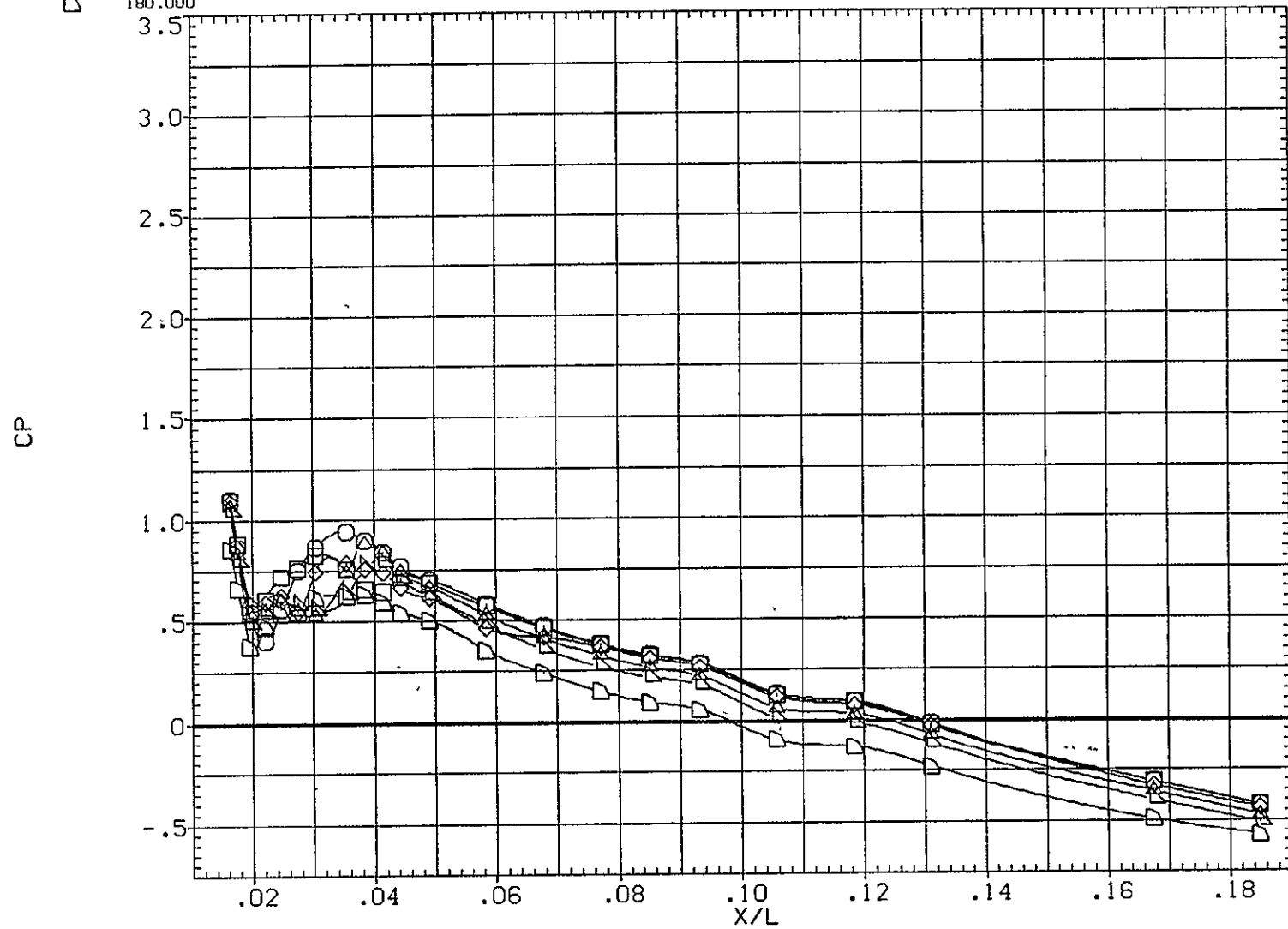


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

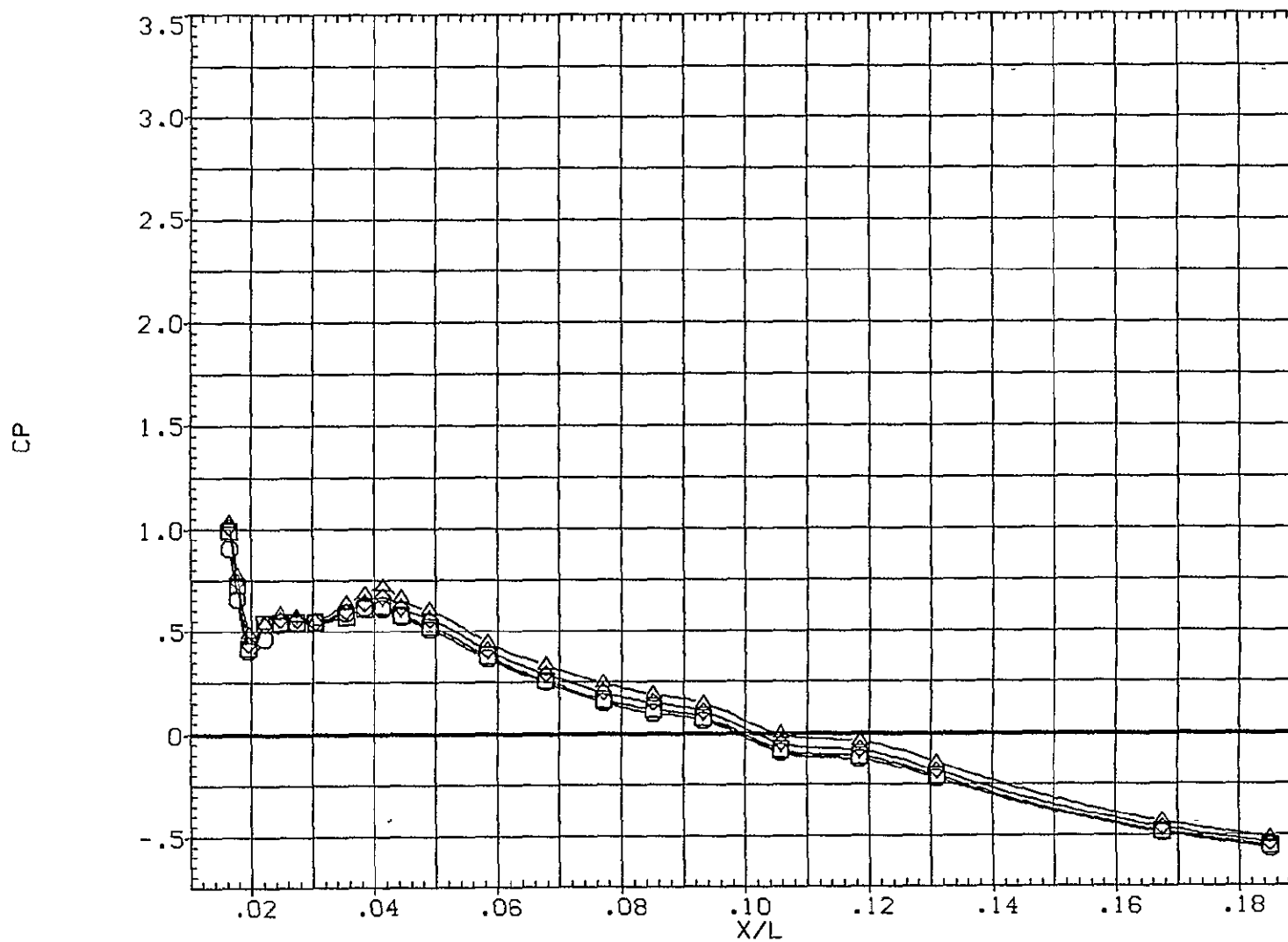
(B1G002)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
	BETA	.000	PHI	.000		
○	.000	-4.040	.800			
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◁	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES			
				BETA	.000	PHI	.000
○	202.500	-4.040	.800				
□	225.000						
◇	247.500						
△	270.000						

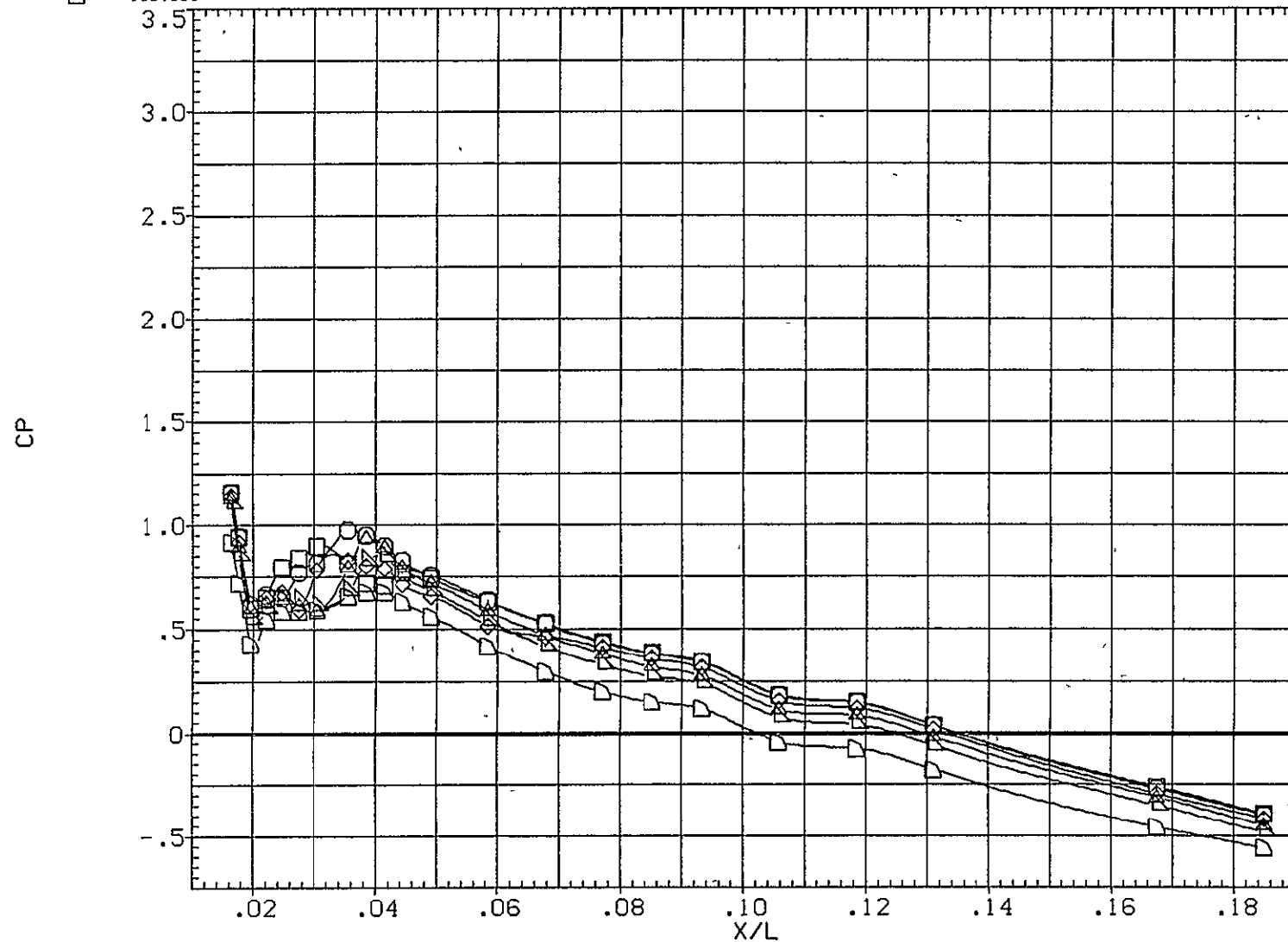


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

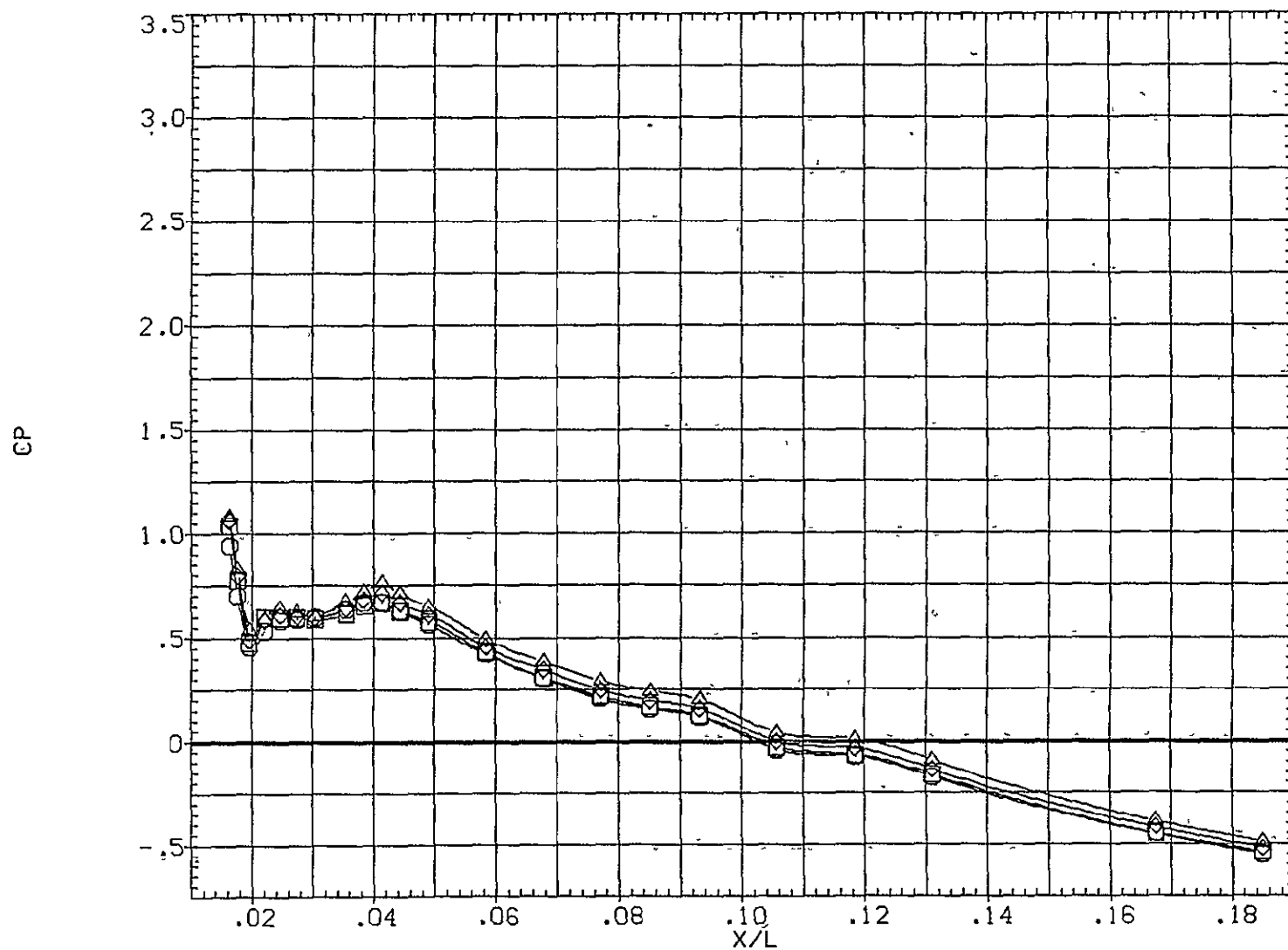
(B1G002)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-4.040	.906	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◻	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	-4.040	.906	BETA	.000	PHI
□	225.000					.000
◇	247.500					
△	270.000					

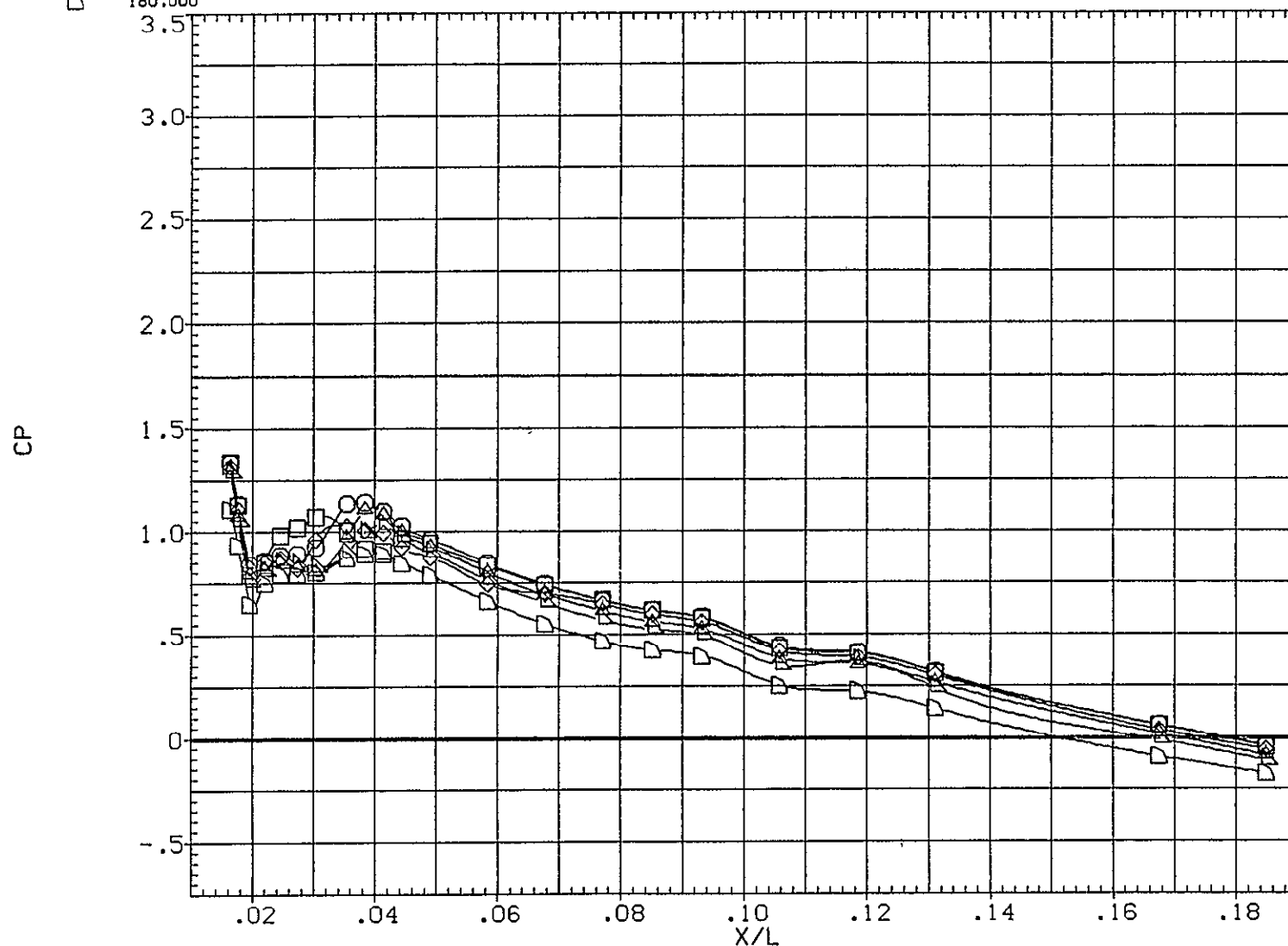


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

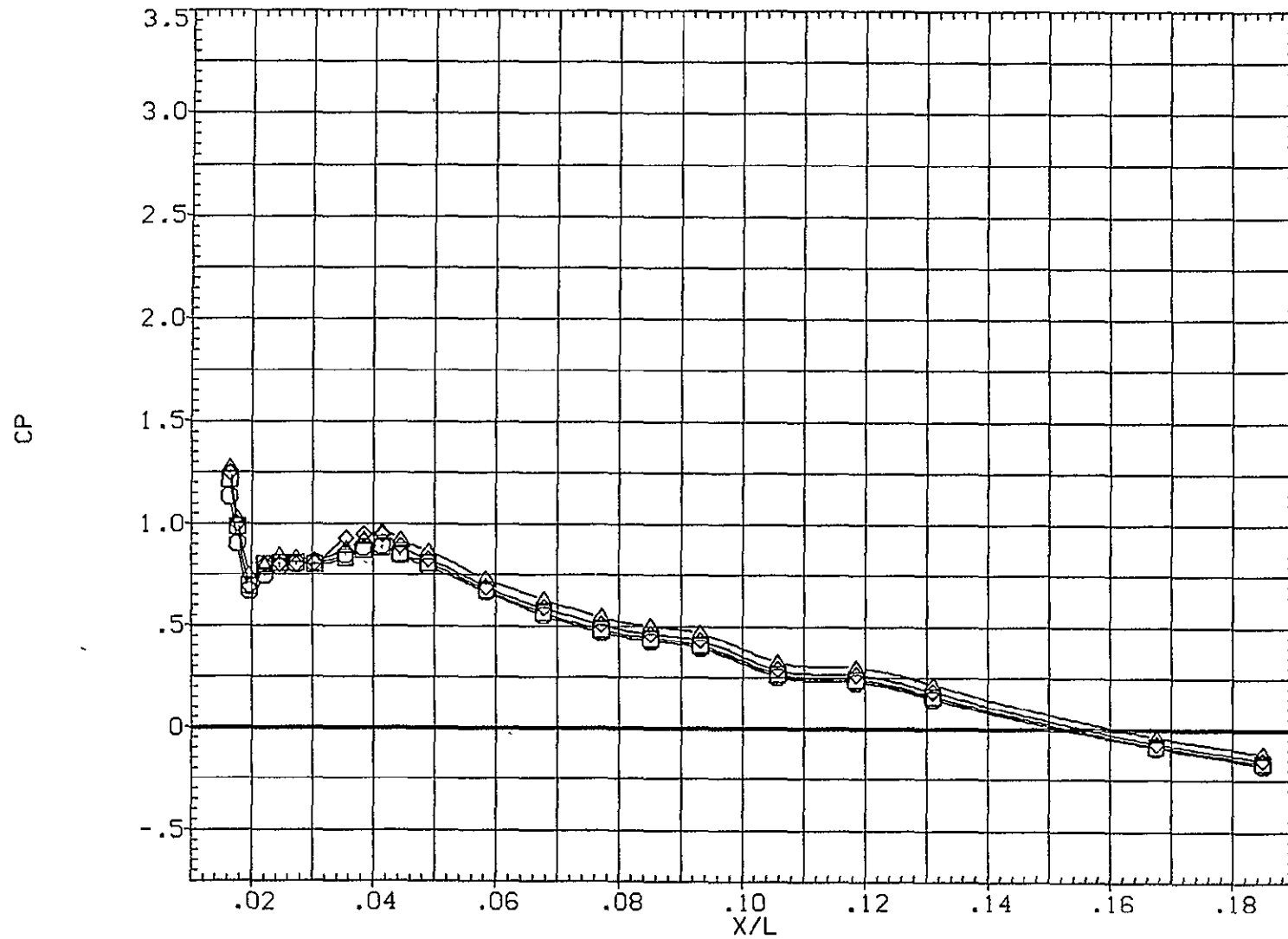
(B1G002)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000 PHI	.000
○	.000	-4.040	1.204			
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	-4.040	1.204		.000		.000
□	225.000						
◇	247.500						
△	270.000						



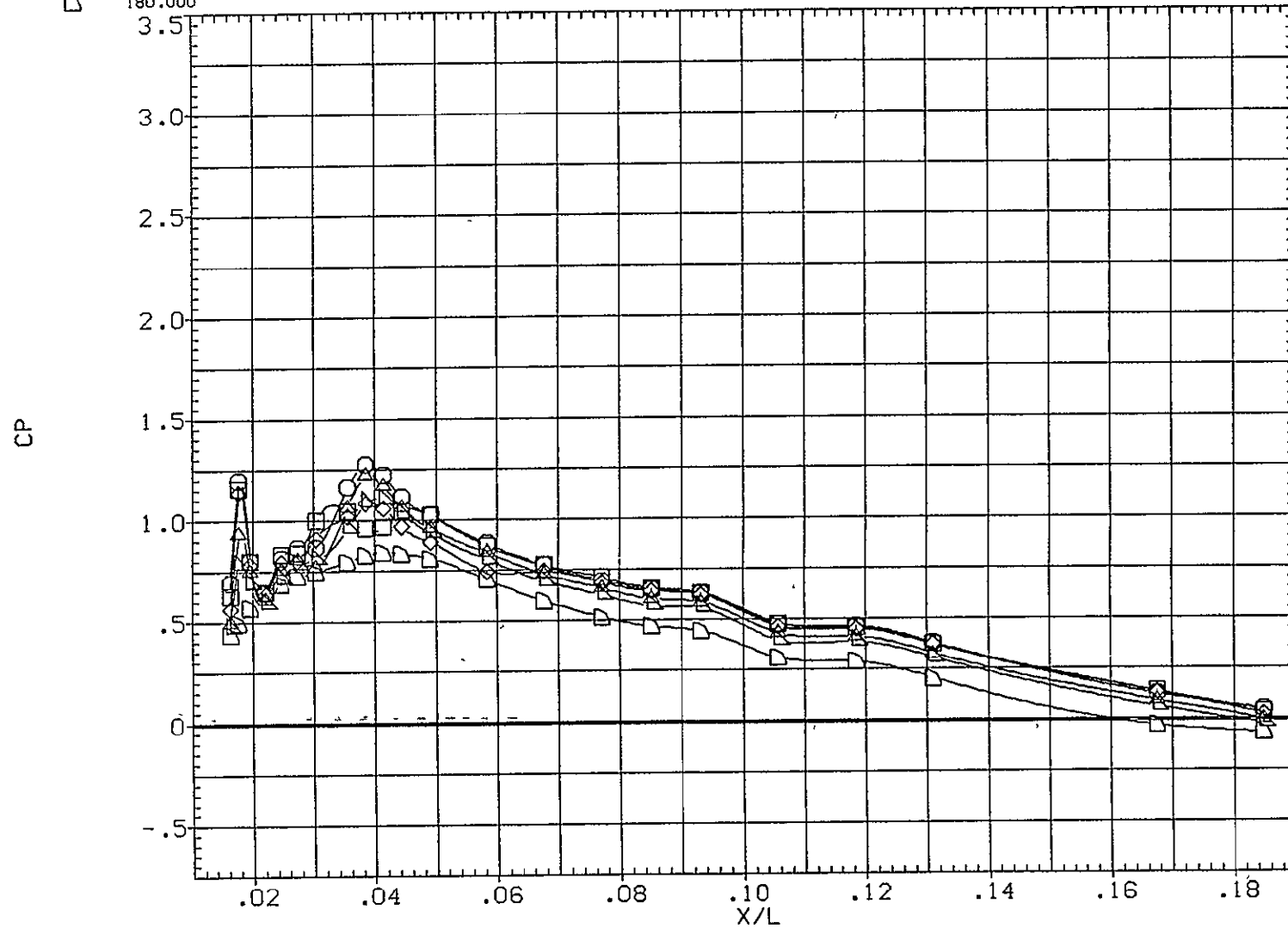
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

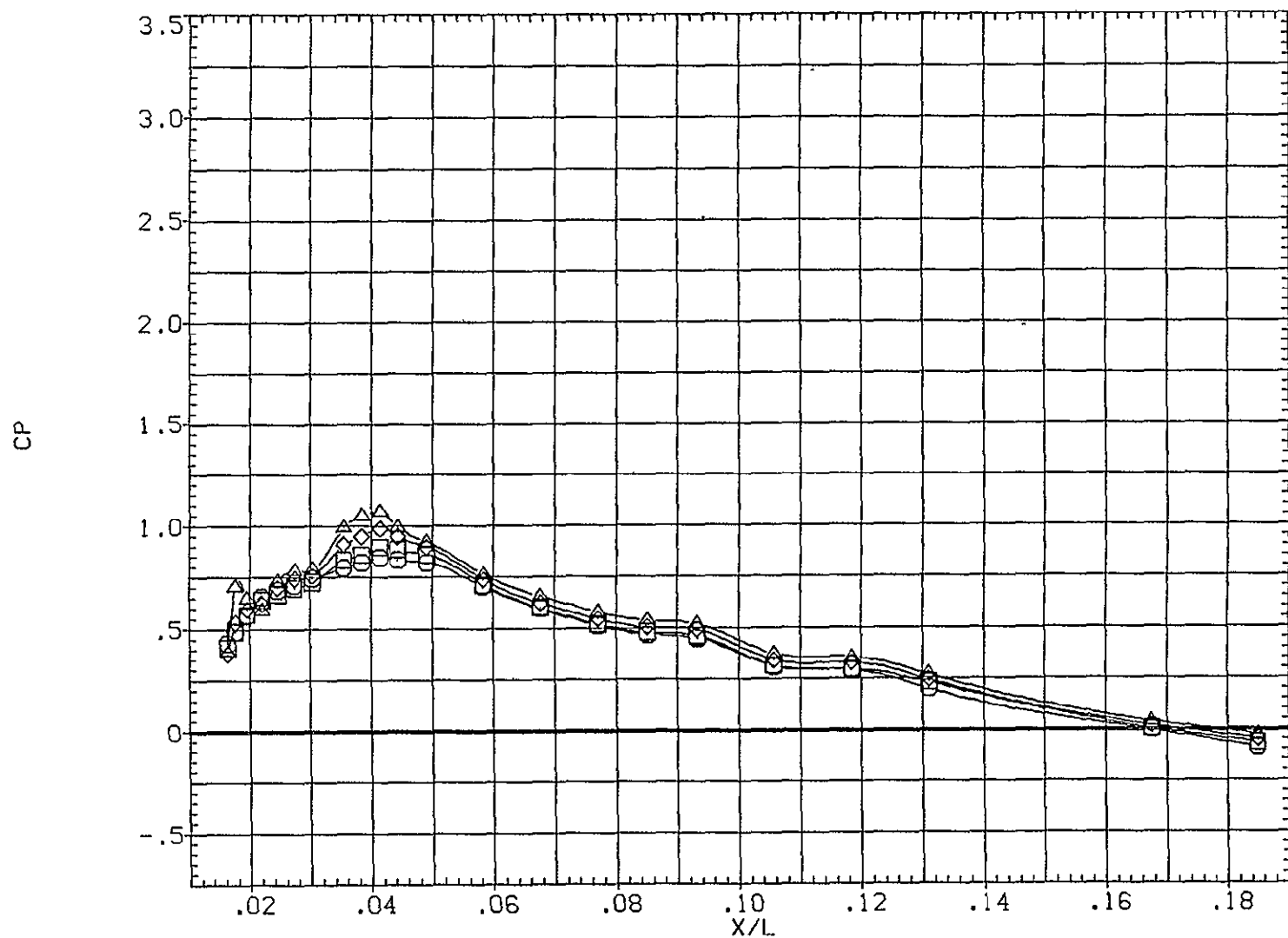
(B1G002)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000 PHI	.000
○	.000	-4.060	1.462			
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	202.500	-4.060	1.462		.000 PHI .000
□	225.000				
◇	247.500				
△	270.000				



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G002)

SYMBOL

THETA

ALPHA

MACH

PARAMETRIC VALUES

BETA

.000

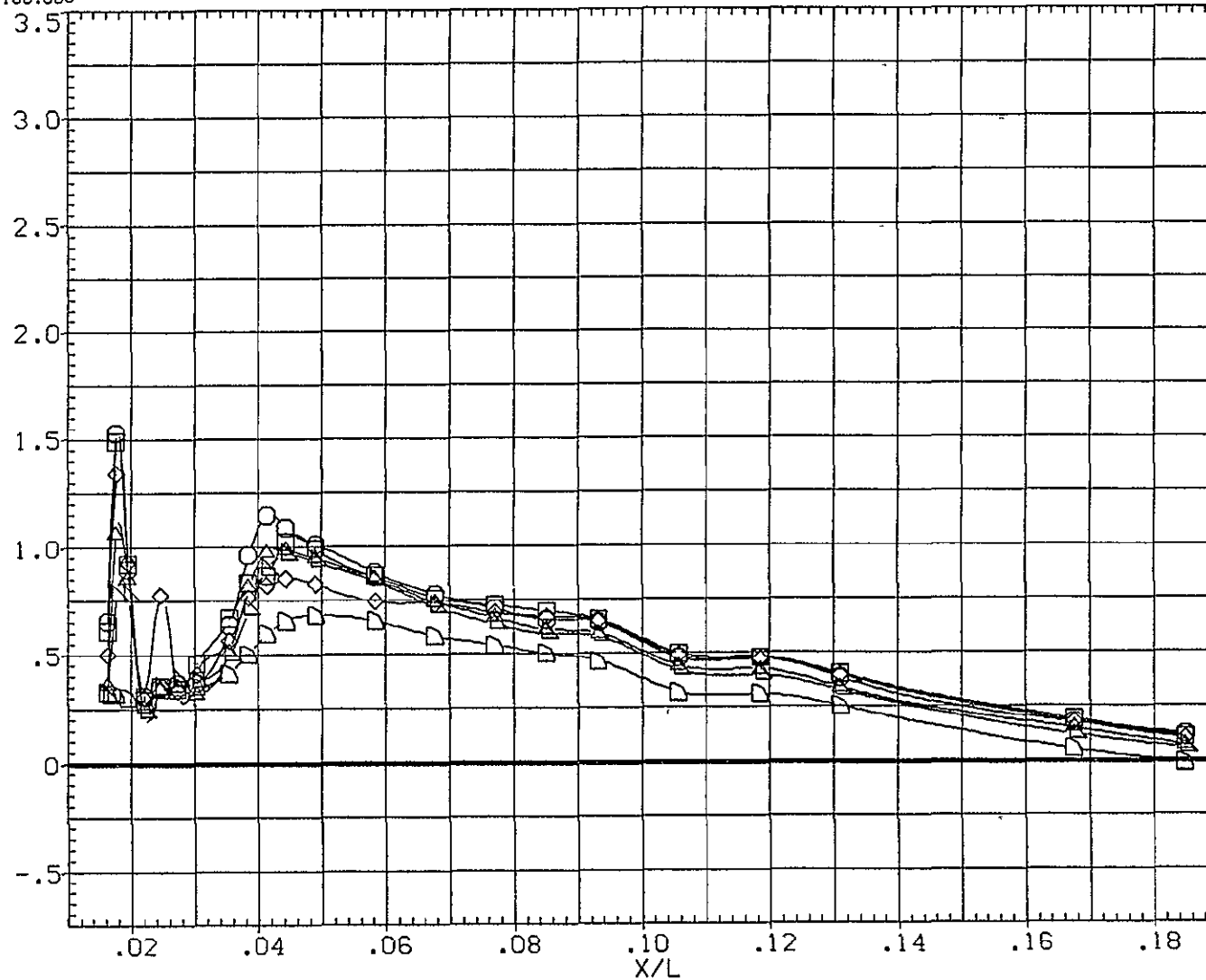
PHI

.000

○  
□  
◇  
△  
▽  
◇  
◇

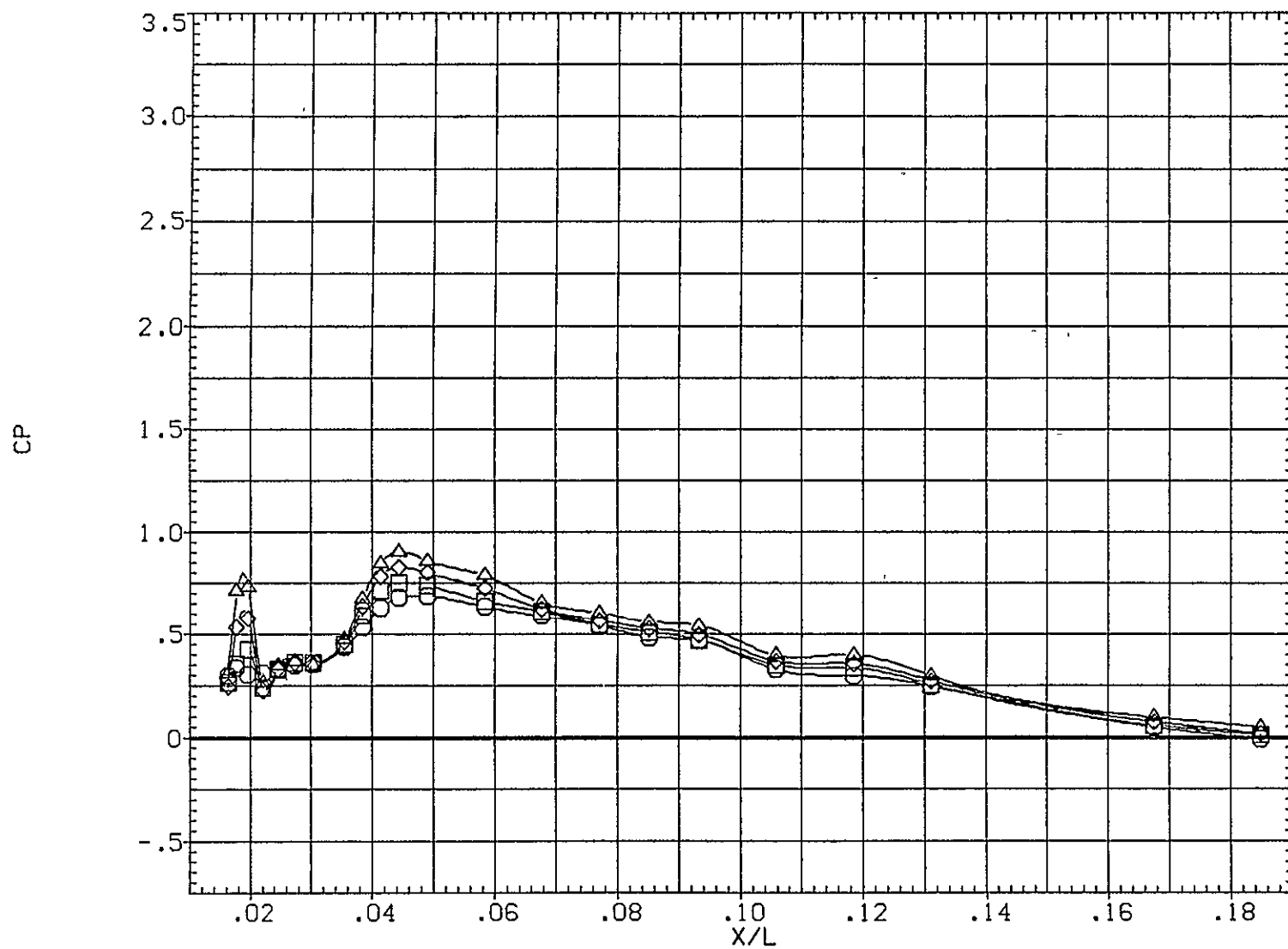
.000  
22.500  
45.000  
67.500  
90.000  
180.000

CP



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	-4.060	1.966		.000		.000
□	225.000						
◇	247.500						
△	270.000						

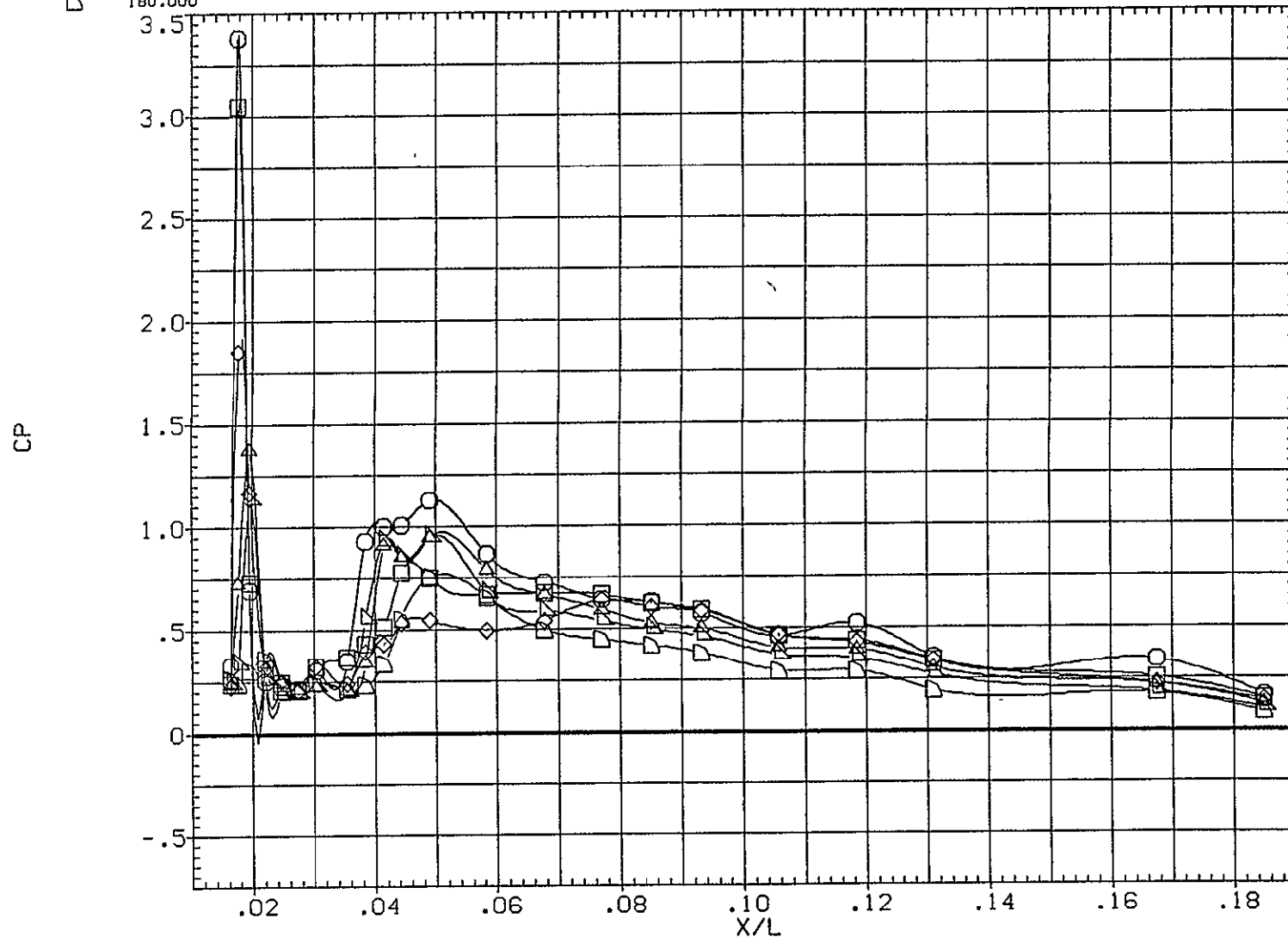


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

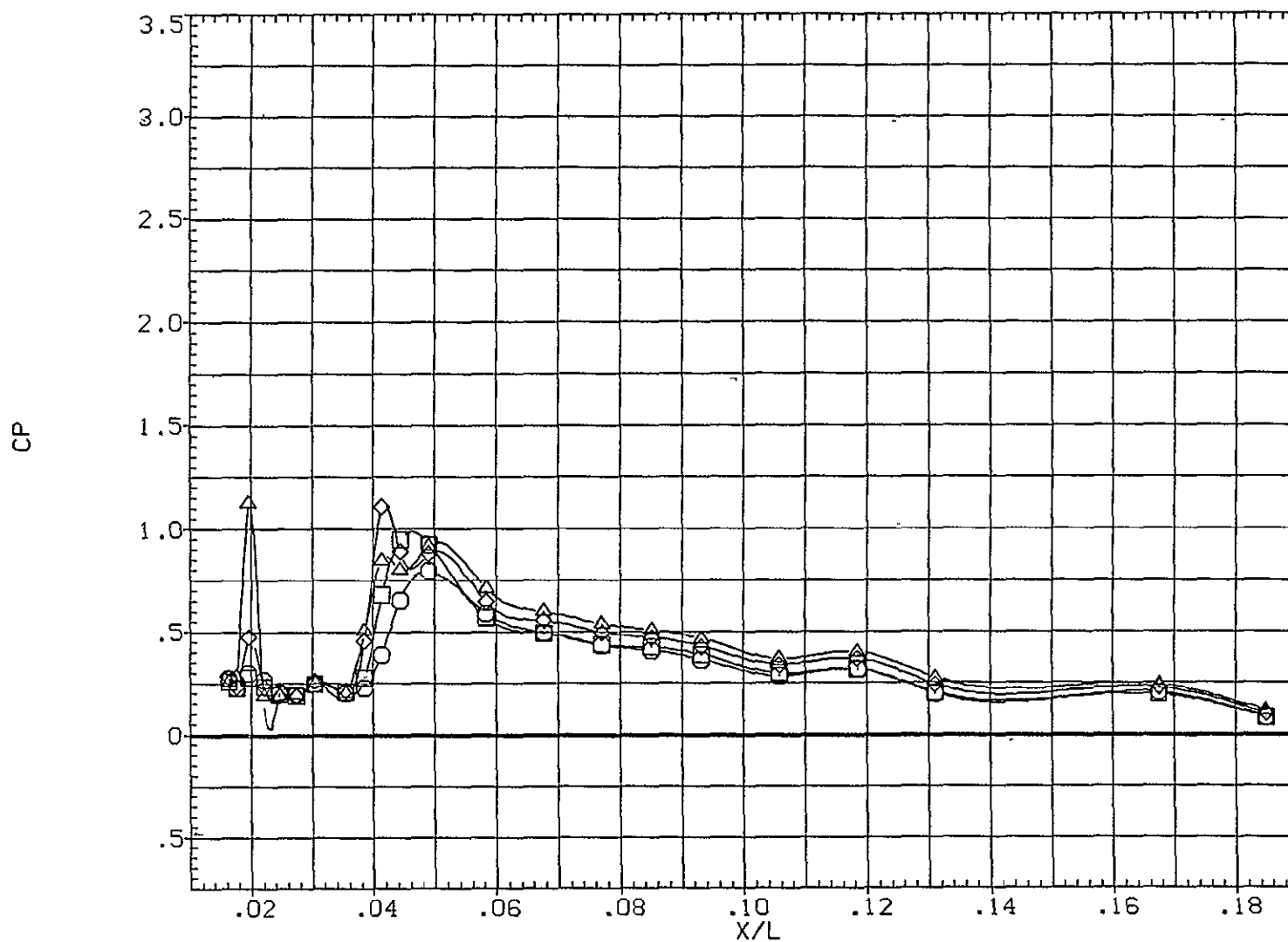
(B1G002)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000	PHI
○	.000	-4.040	4.960			
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	202,500	-4.040	4.960	.000		.000
□	225,000					
◇	247,500					
△	270,000					

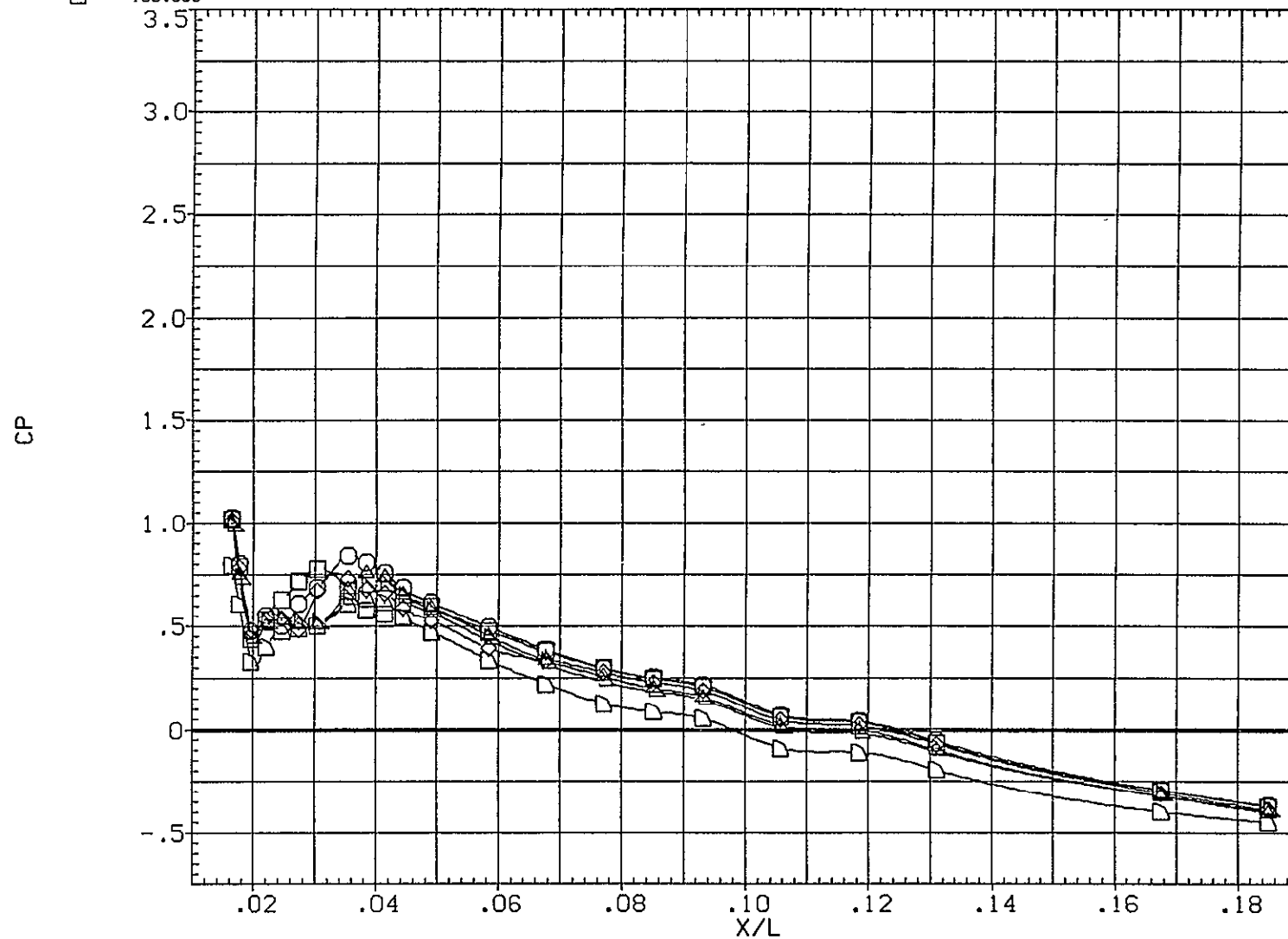


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

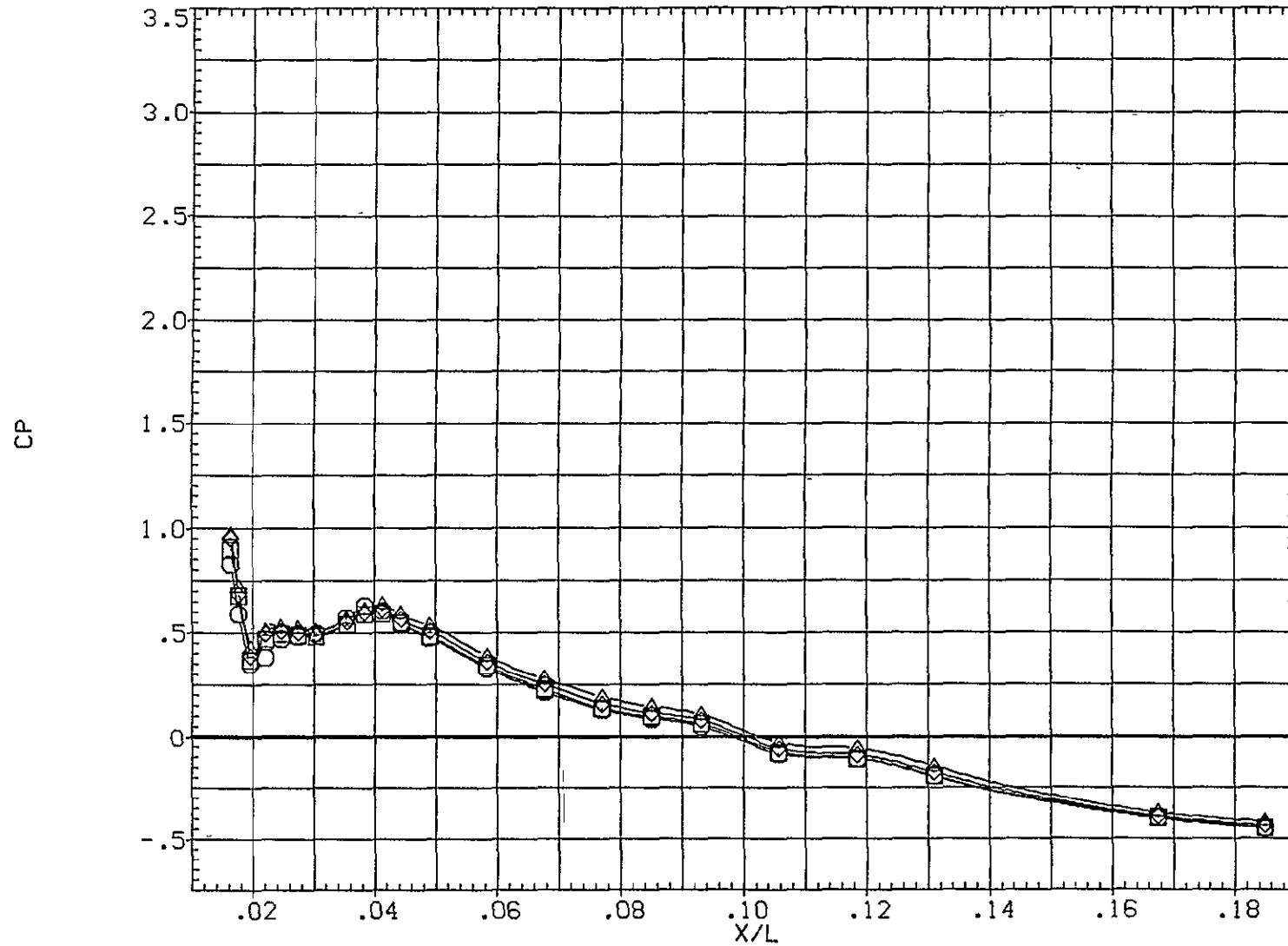
(B1G003)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	
○	.000	-3.050	.599		.000	PHI .000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◁	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	-3.050	.599	BETA	.000	PHI
□	225.000					.000
◇	247.500					
△	270.000					



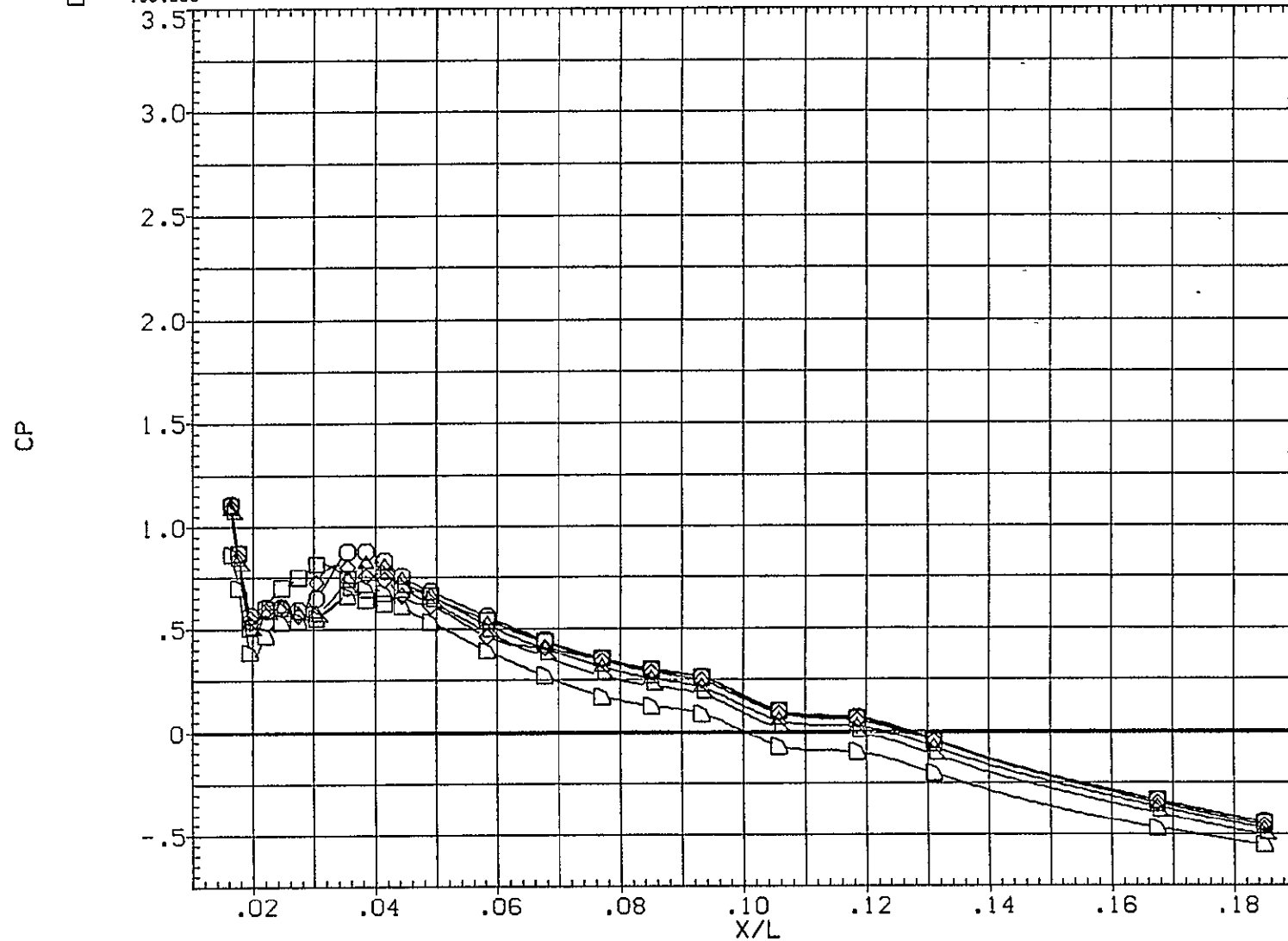
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

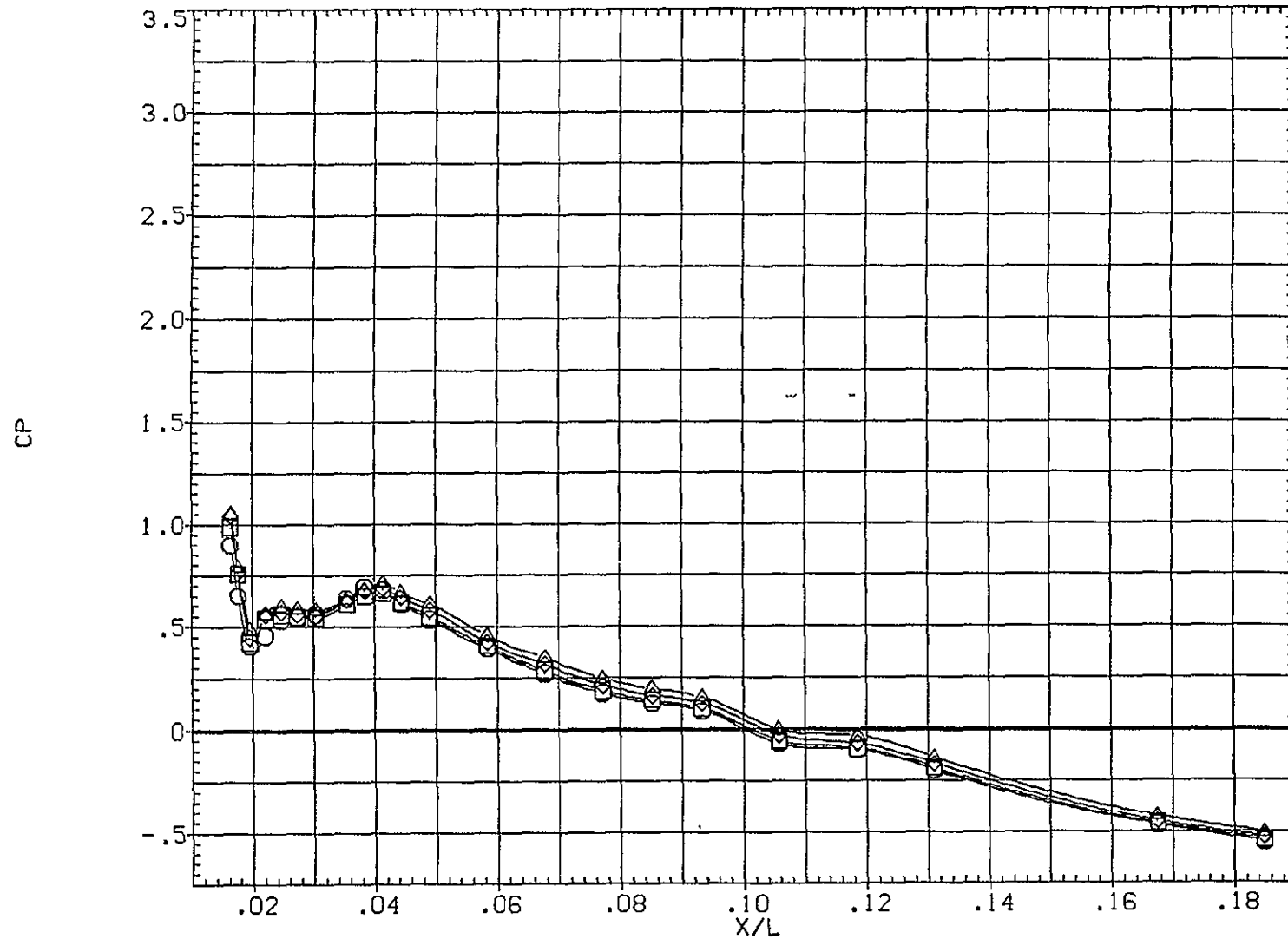
(B1G003)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-3.060	.799	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	-3.060	.799	BETA	.000	PHI
□	225.000					.000
◇	247.500					
△	270.000					

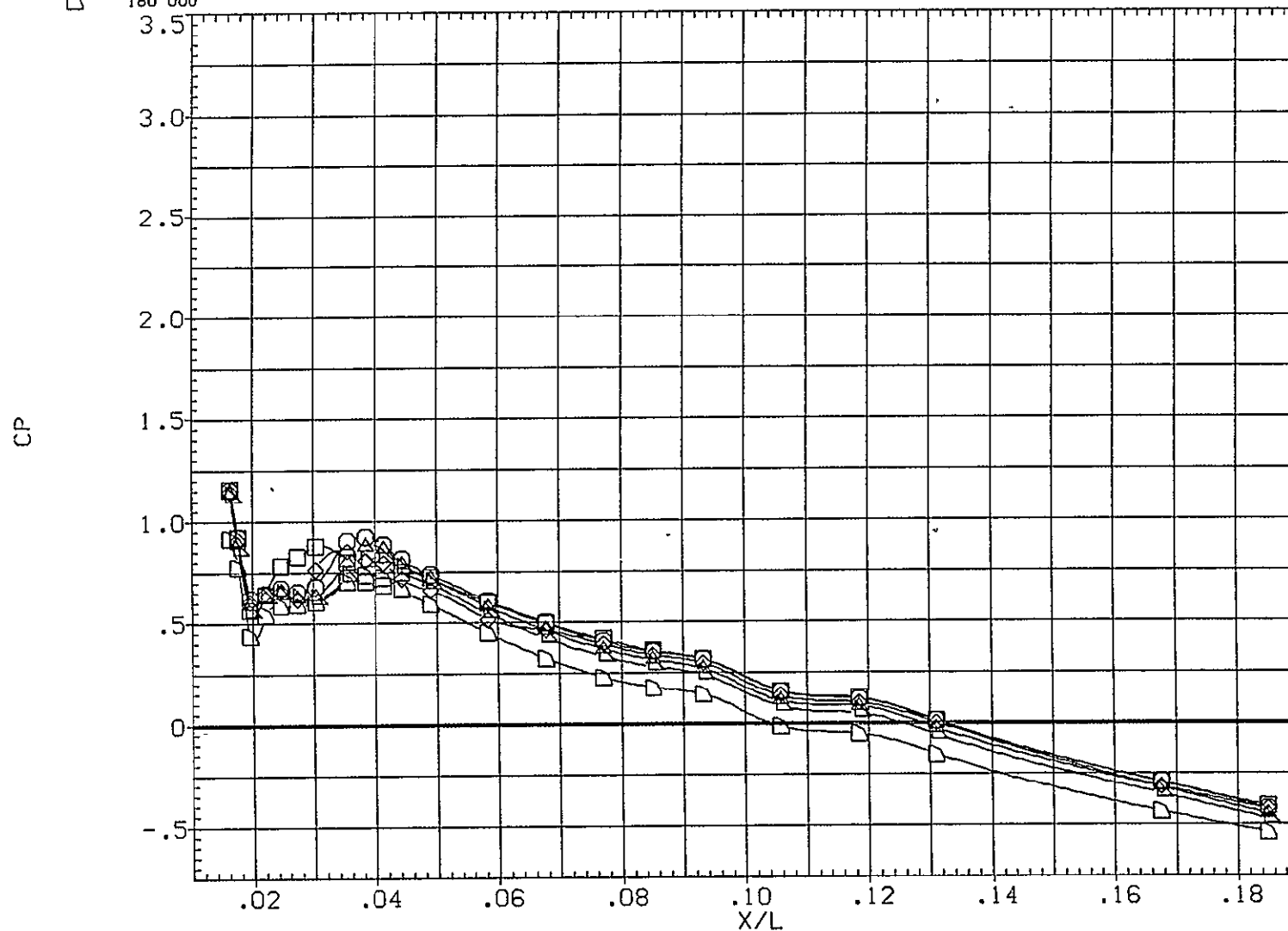


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET N0SE WITH N0SE CAP

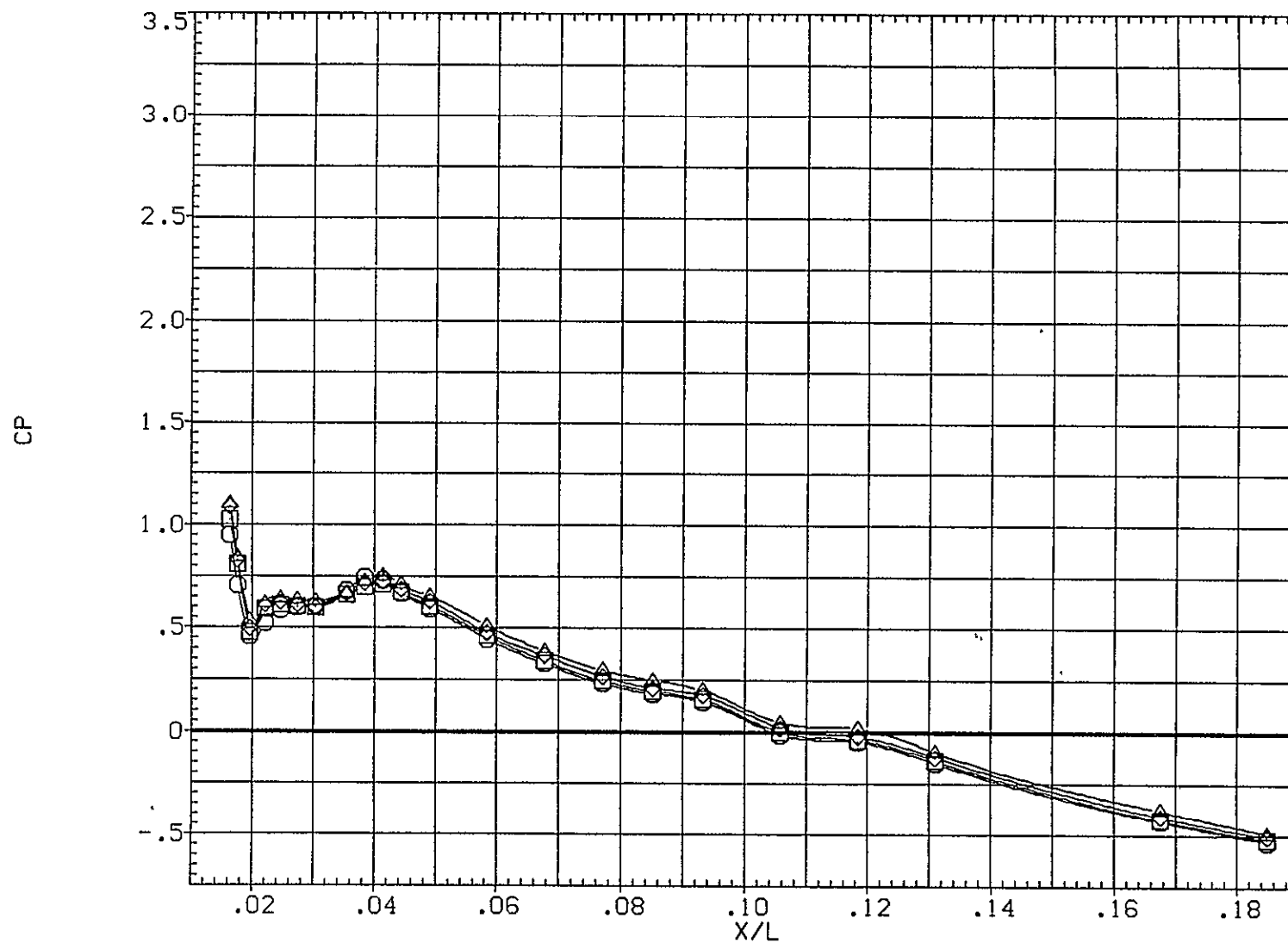
(B1G003)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-3.060	.906	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◻	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	-3.060	.906				
□	225.000				.000		.000
◇	247.500						
△	270.000						

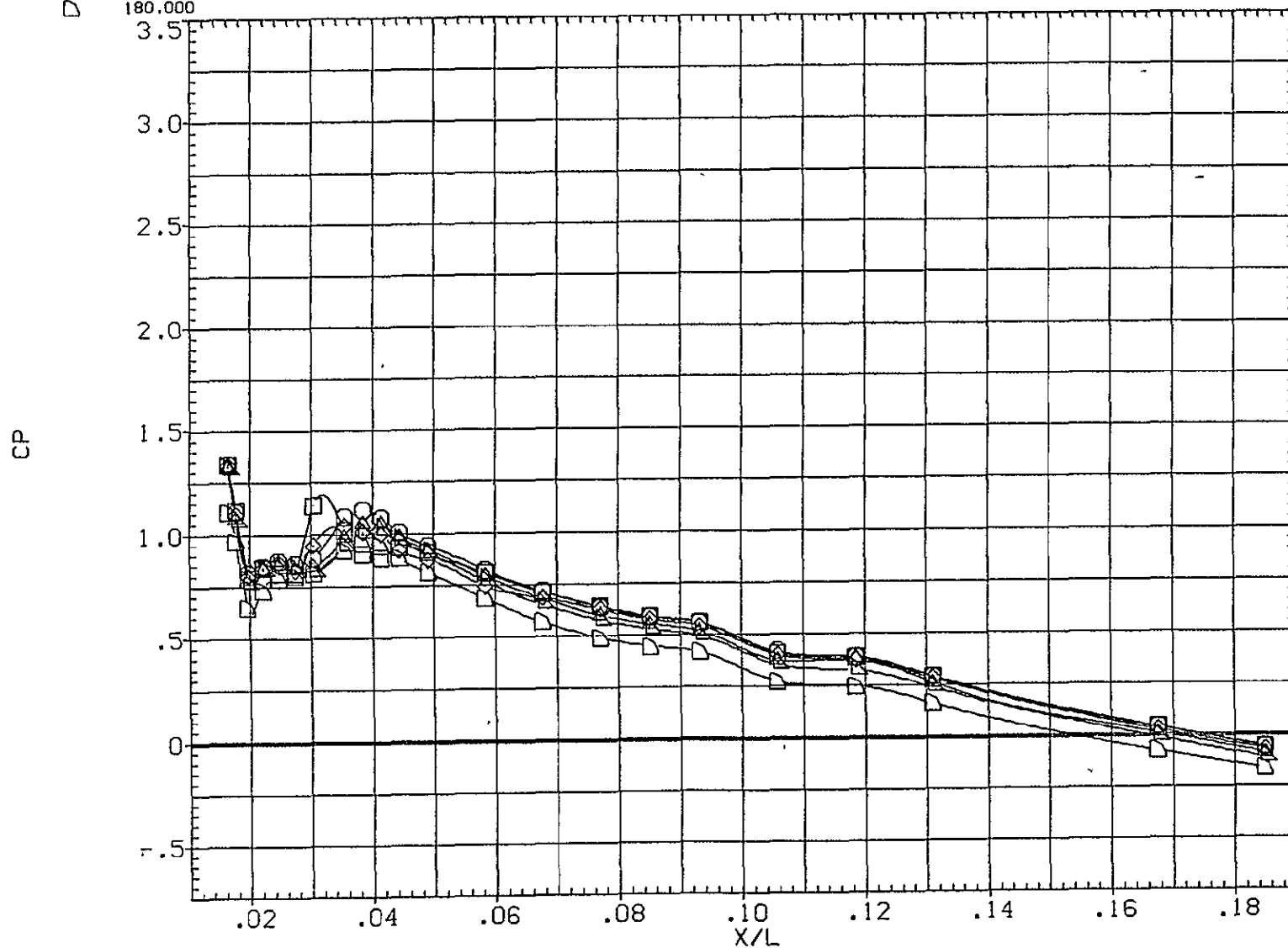


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC 1WT 609 (TA3F) ET NOSE WITH NOSE CAP

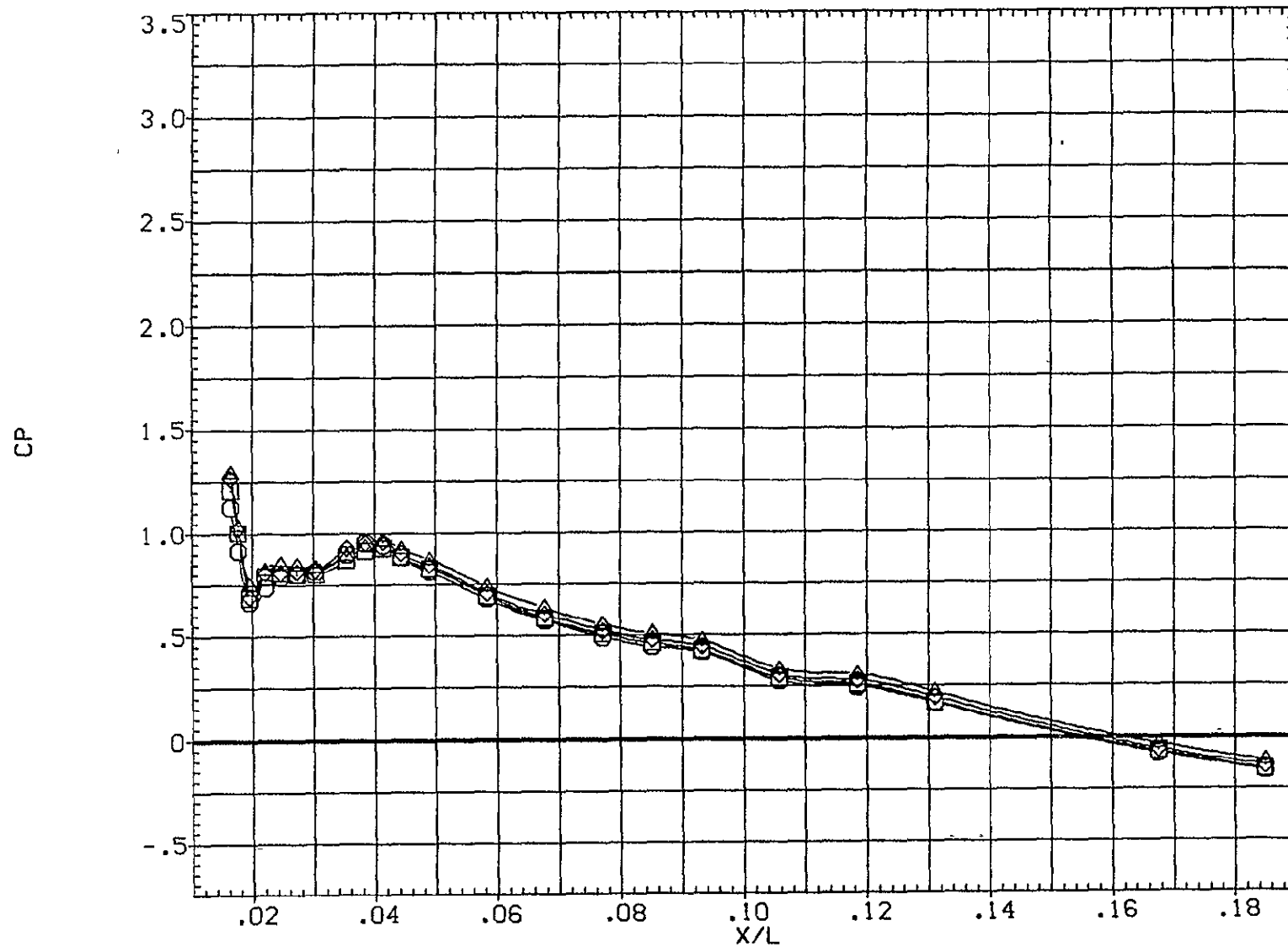
(B1G003)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-3.060	1.204	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◊	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	
○	202,500	-3.060	1.204		.000	PHI
□	225,000					
◇	247,500					
△	270,000					

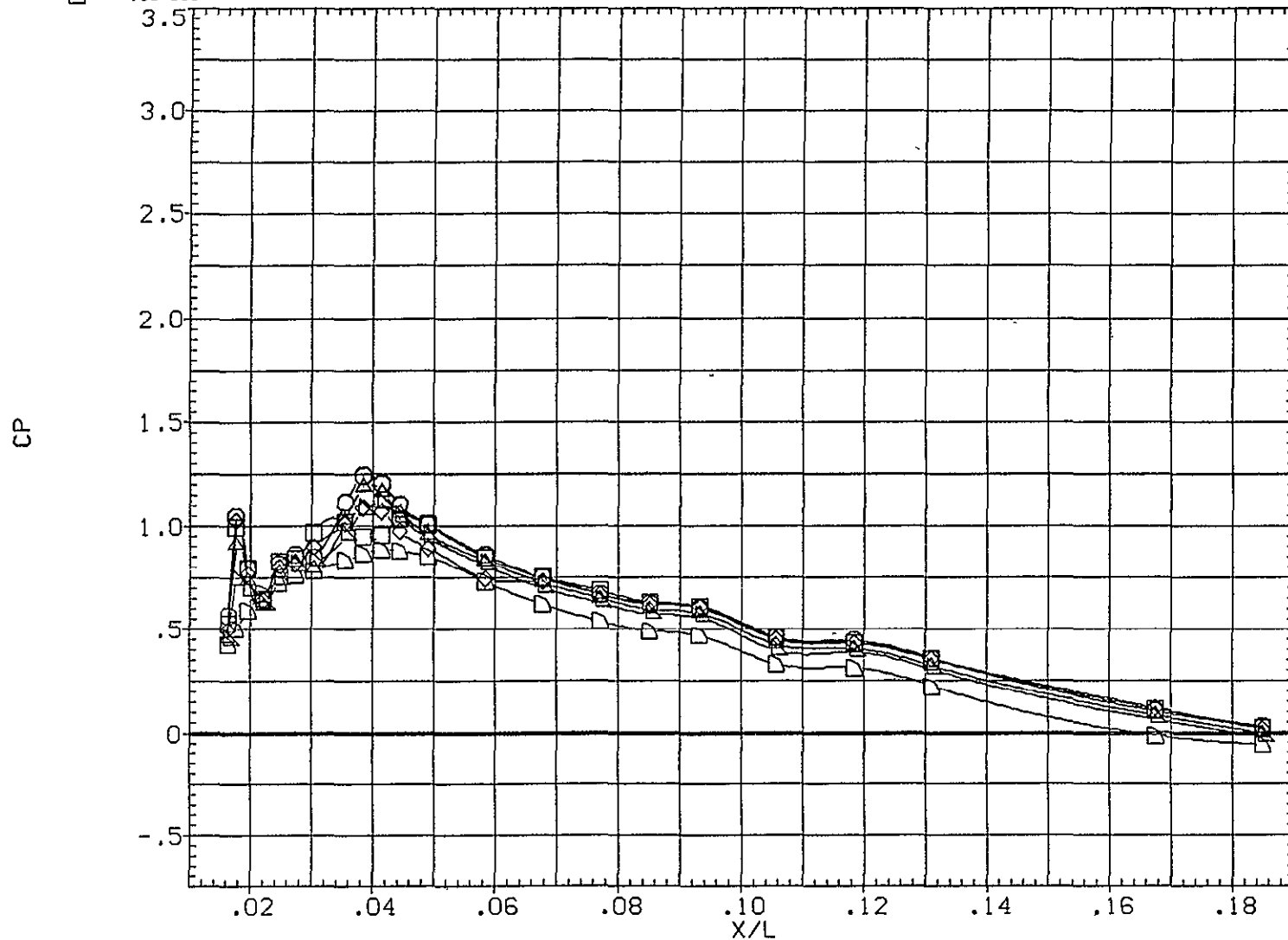


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

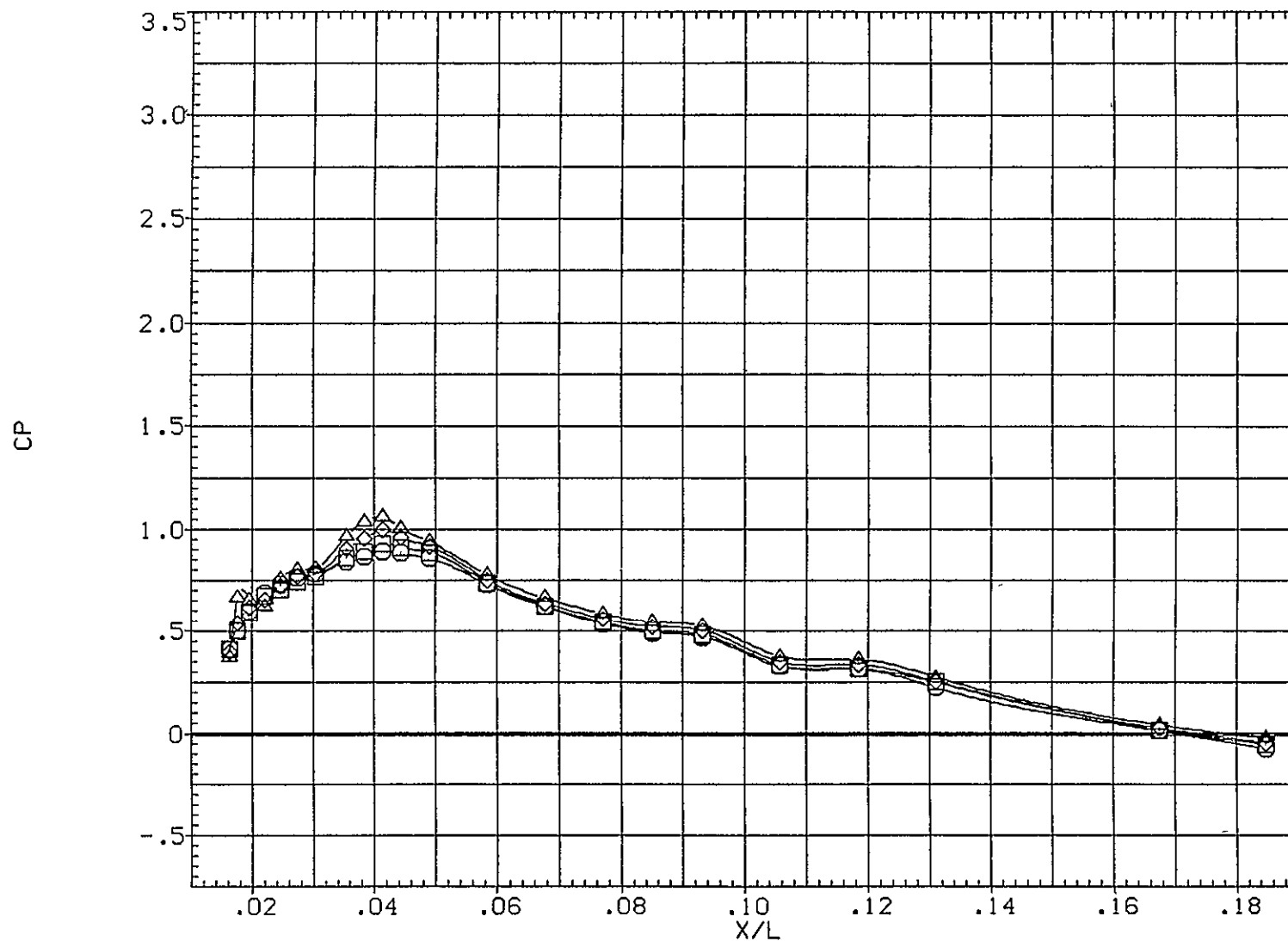
(B1G003)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-3.060	1.463	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◻	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	-3.060	1.463	BETA	.000	PHI
□	225.000					
◇	247.500					
△	270.000					



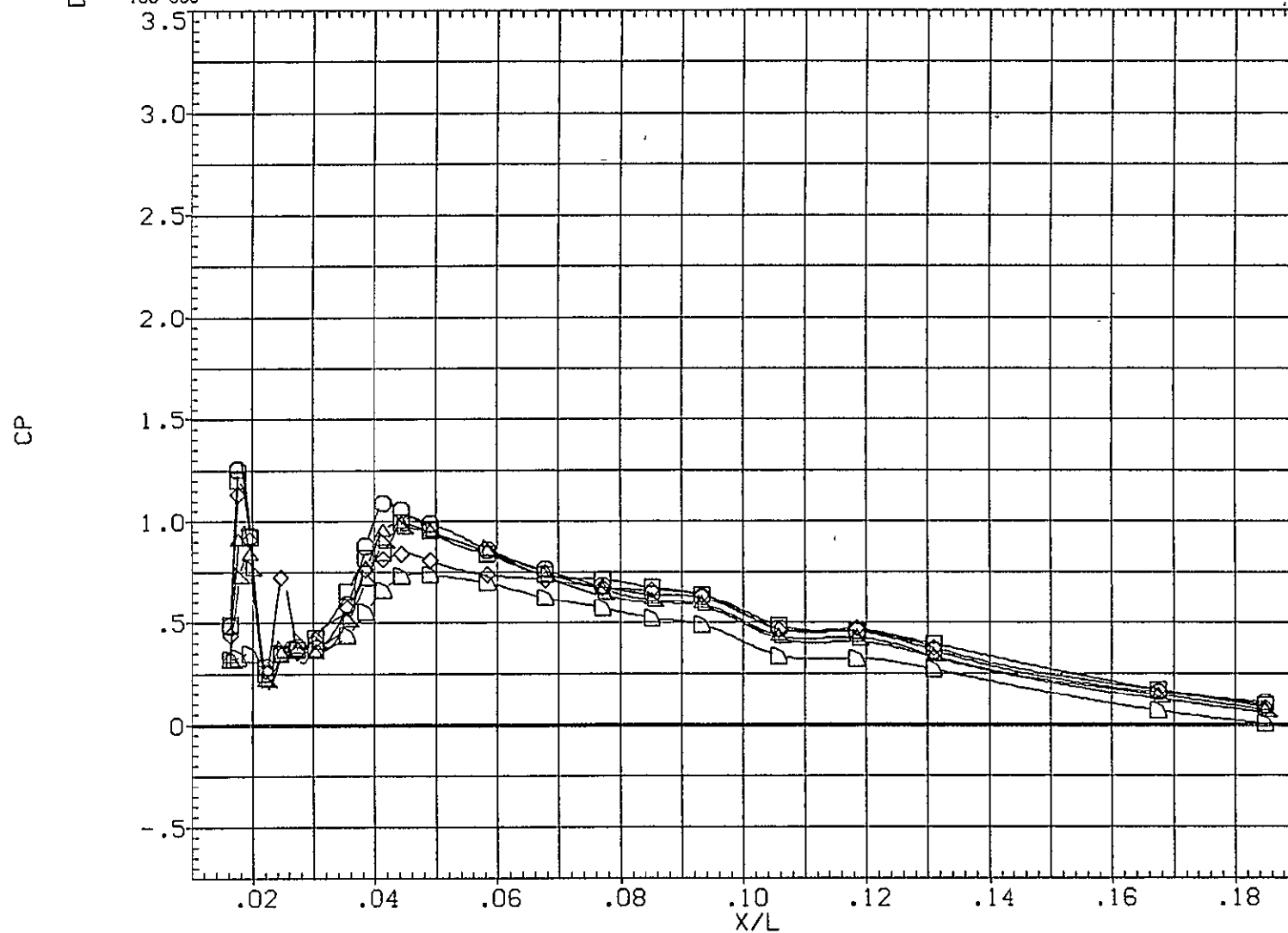
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G003)

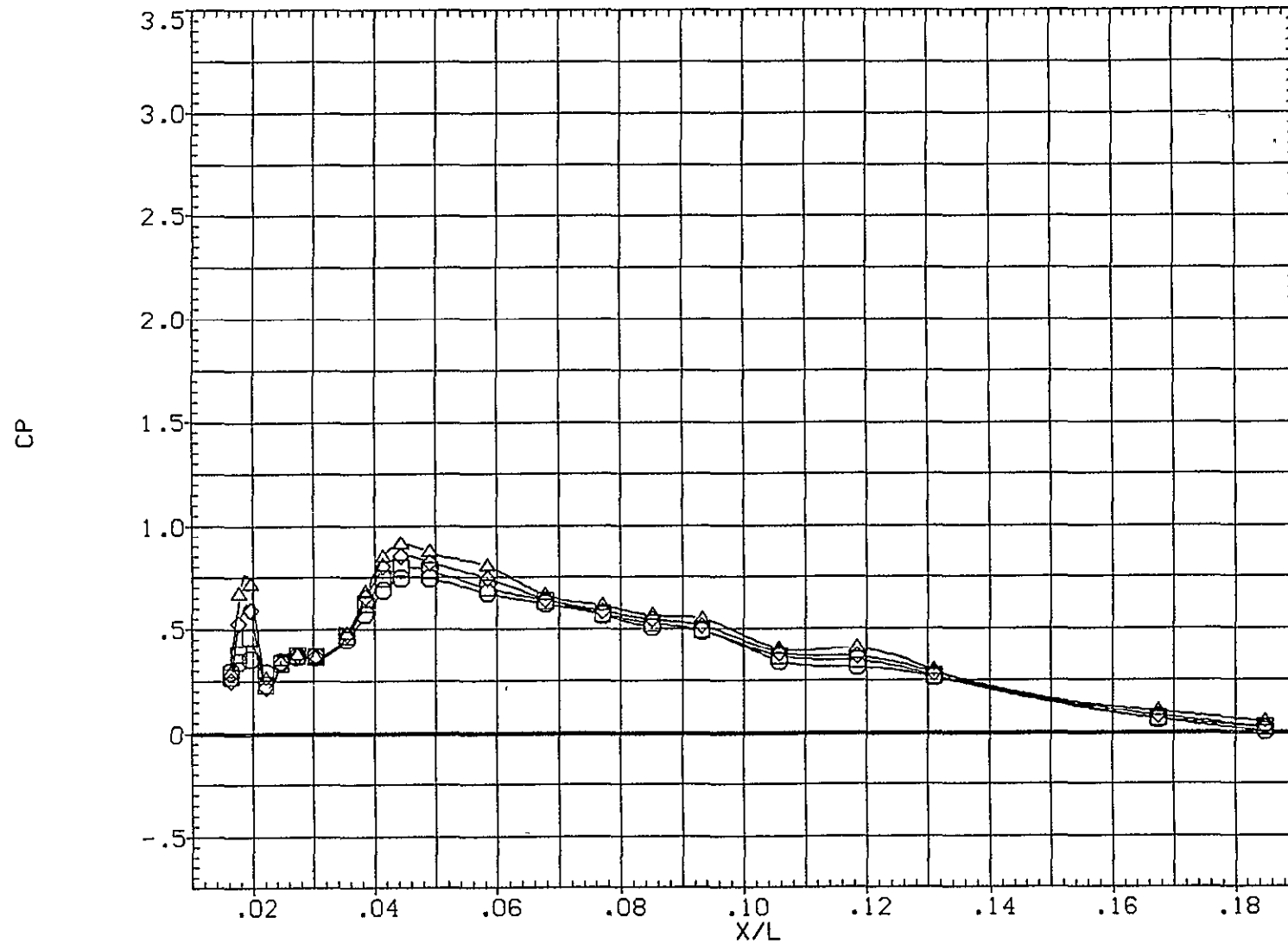
SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-3.060	1.963	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

0.5

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES		
○	202.500	-3.060	1.953		.000	PHI	.0
□	225.000						
◇	247.500						
△	270.000						

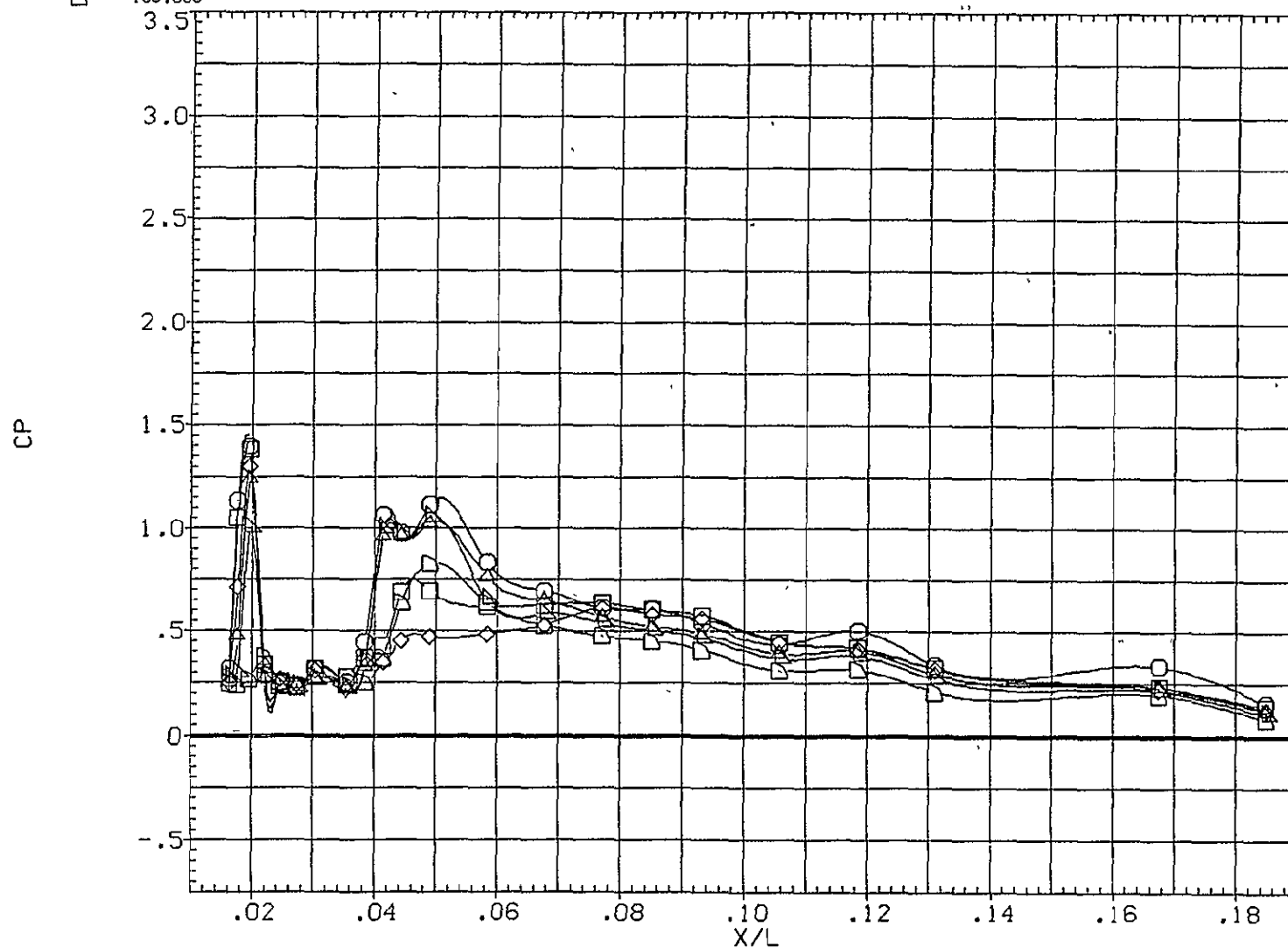


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

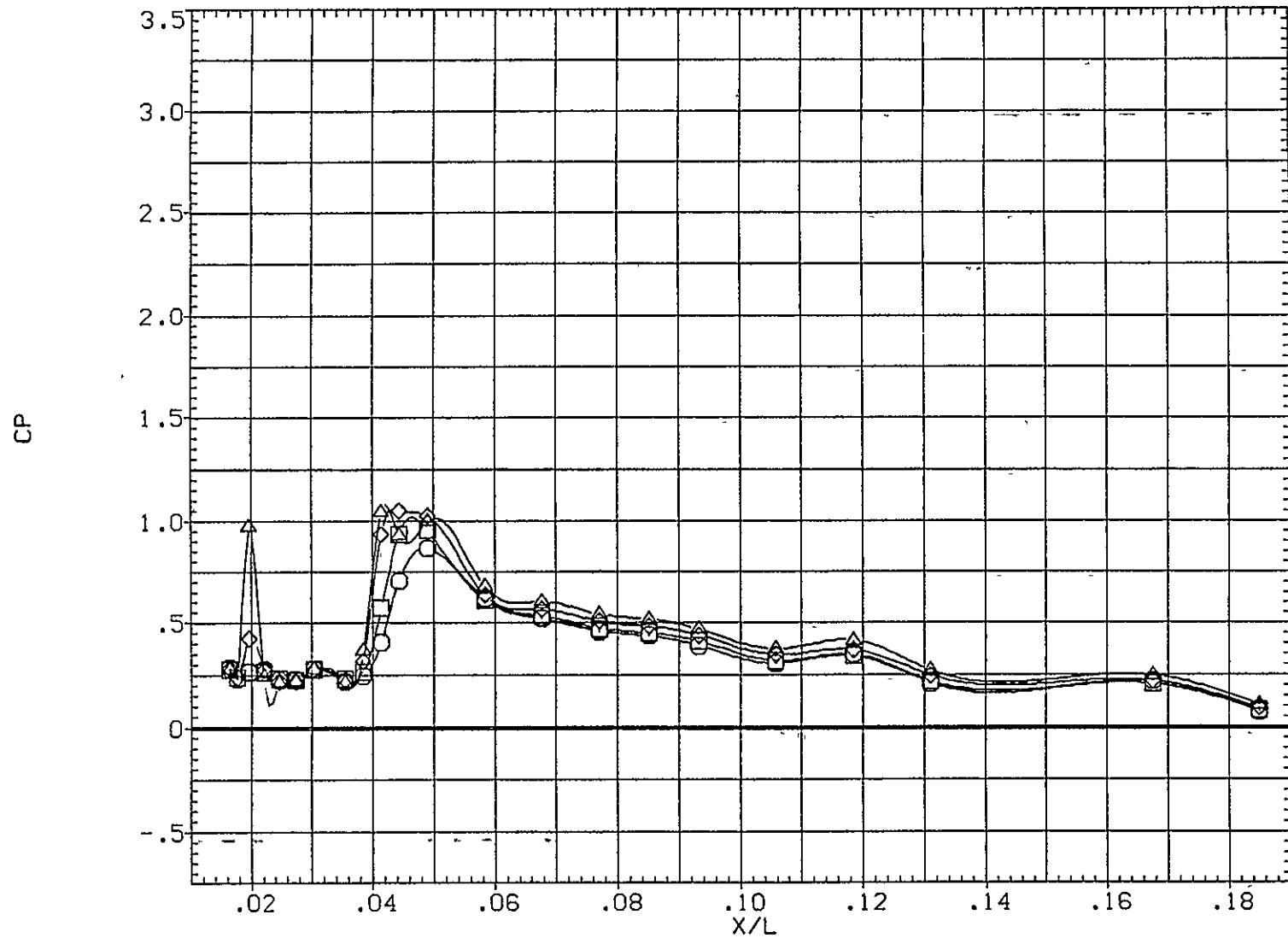
(B1G003)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES		
○	.000	-3.020	4.960		.000	PHI	.000
□	22.500						
◇	45.000						
△	67.500						
▽	90.000						
◇	180.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	-3.020	4.960	.000			.000
□	225.000						
◇	247.500						
△	270.000						

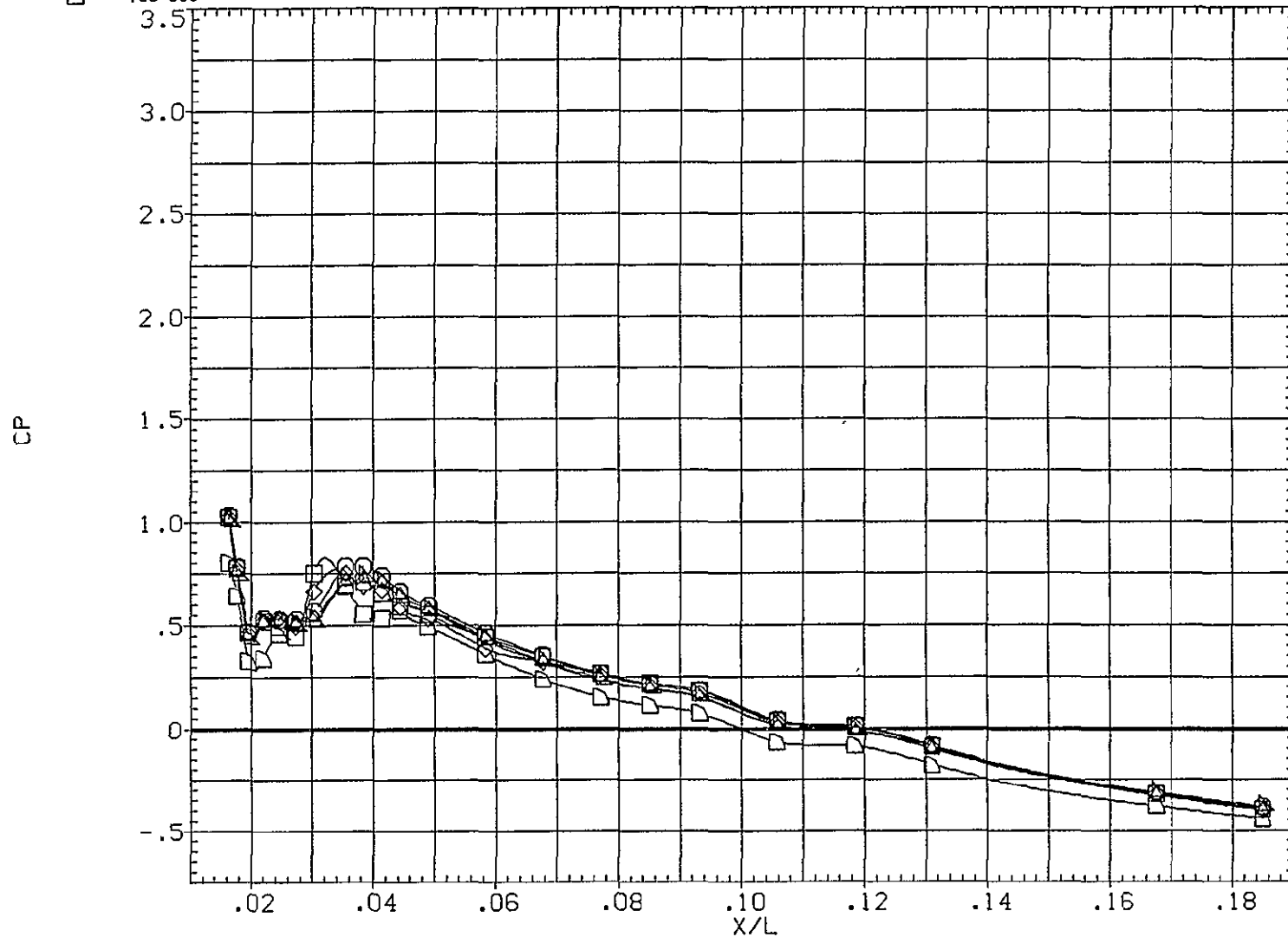


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

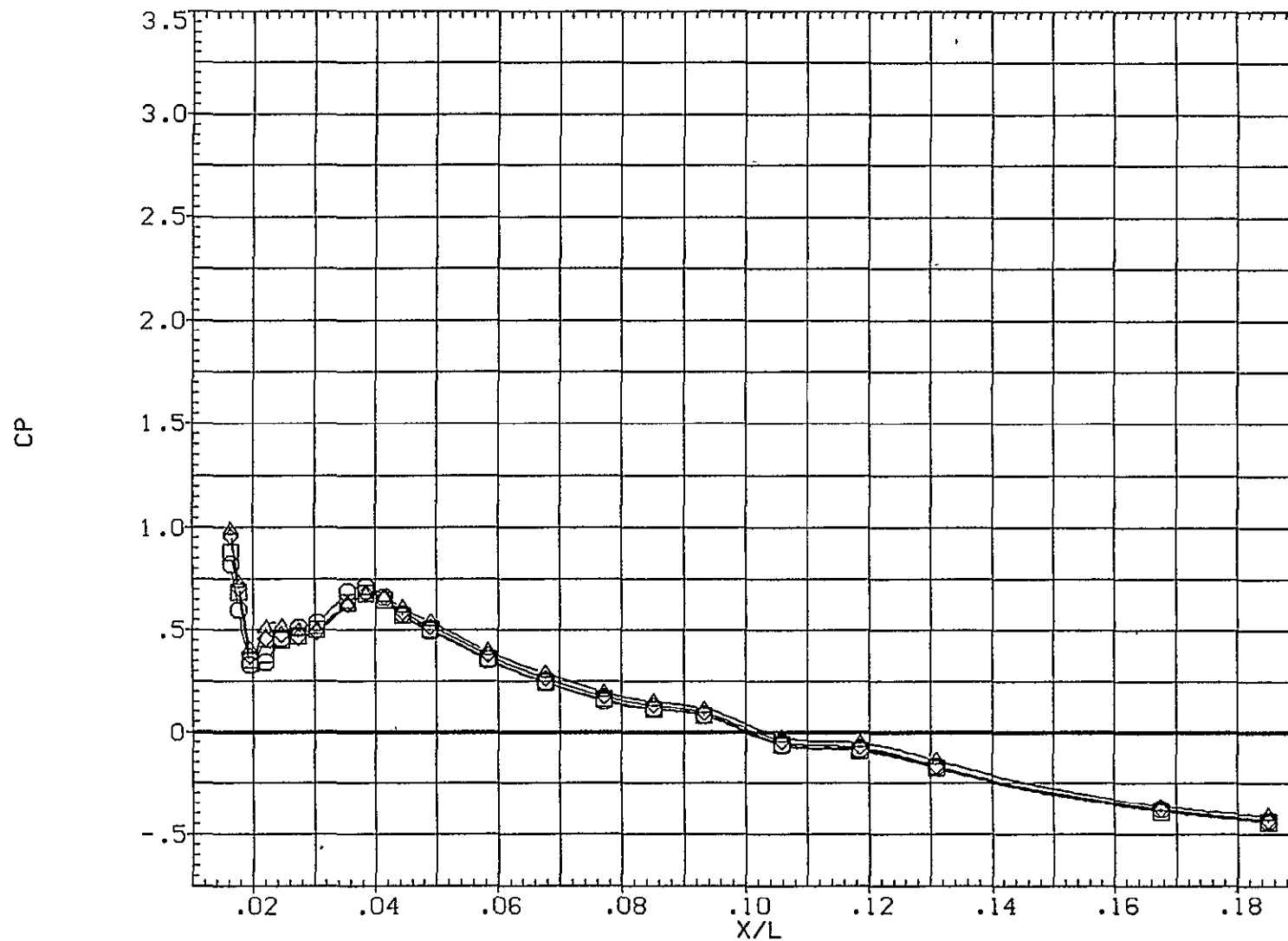
(B16004)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	
○	.000	-2.040	.598	.000	PHI	.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◊	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

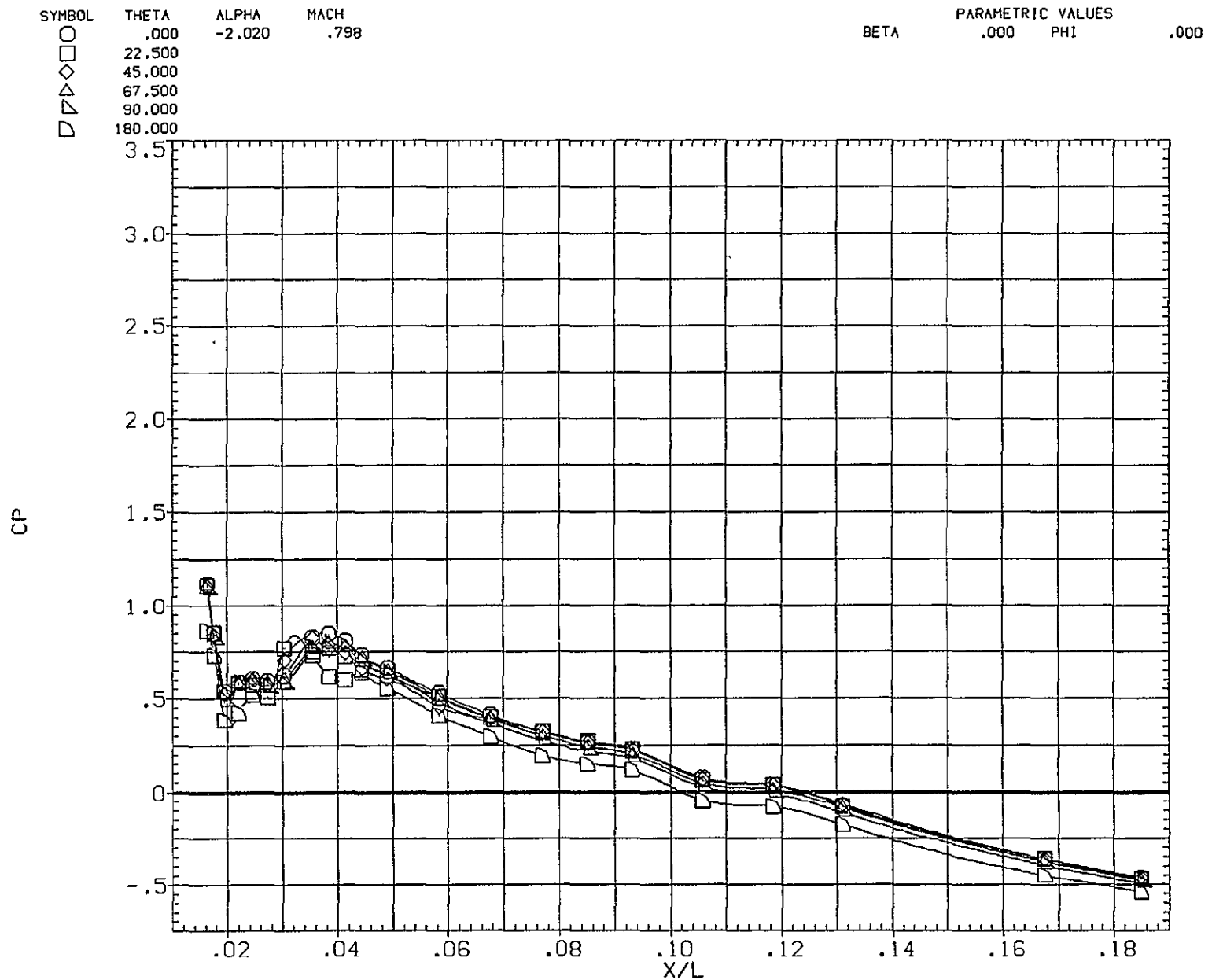
SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	-2.040	.598	.000			.000
□	225.000						
◇	247.500						
△	270.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

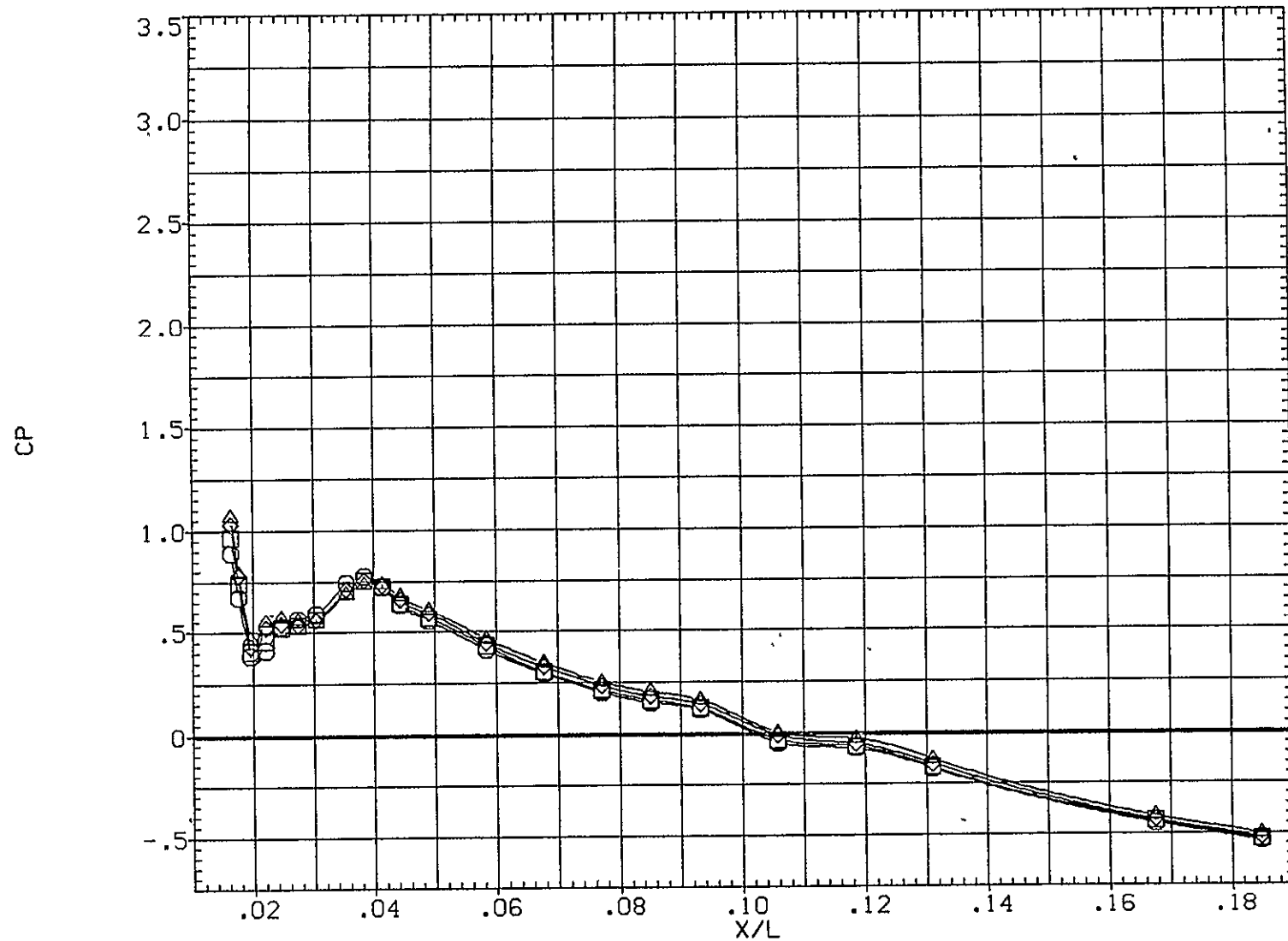
MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16004)



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	-2.020	.798	BETA	.000	PHI
□	225.000					
◇	247.500					
△	270.000					



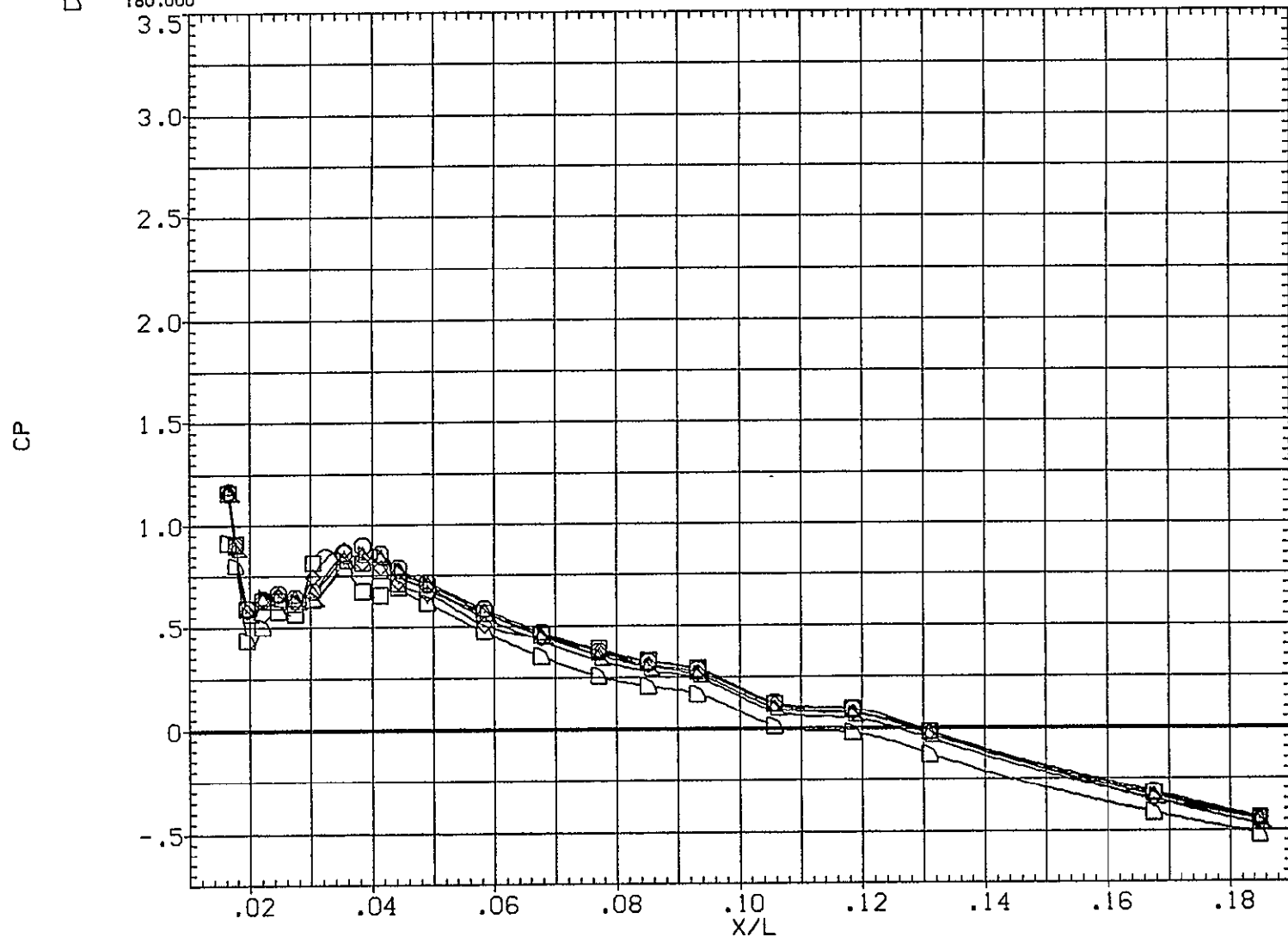
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

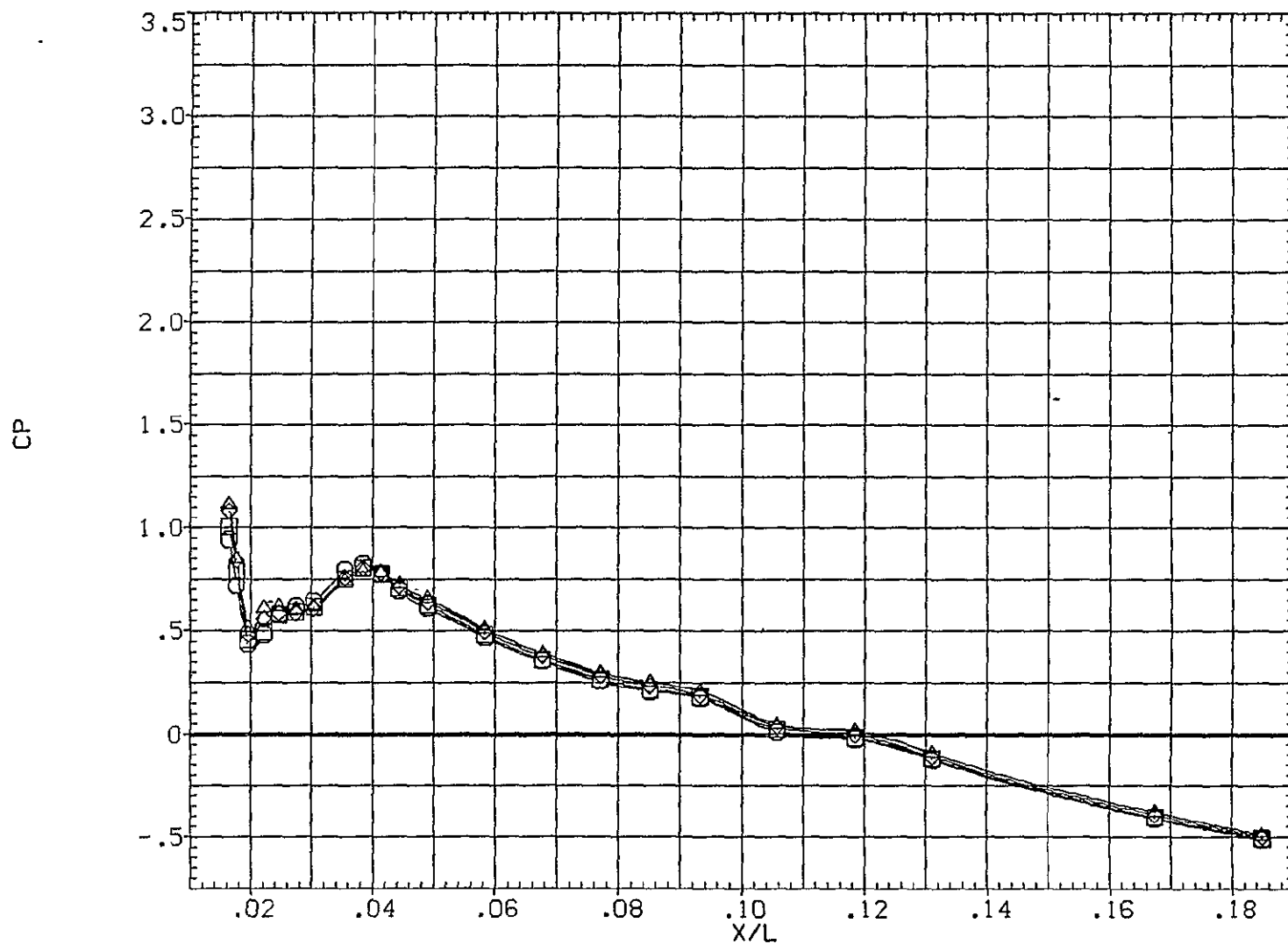
(B1G004)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-2.040	.905			
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	-2.040	.905	BETA	000	PHI .000
□	225.000					
◇	247.500					
△	270.000					

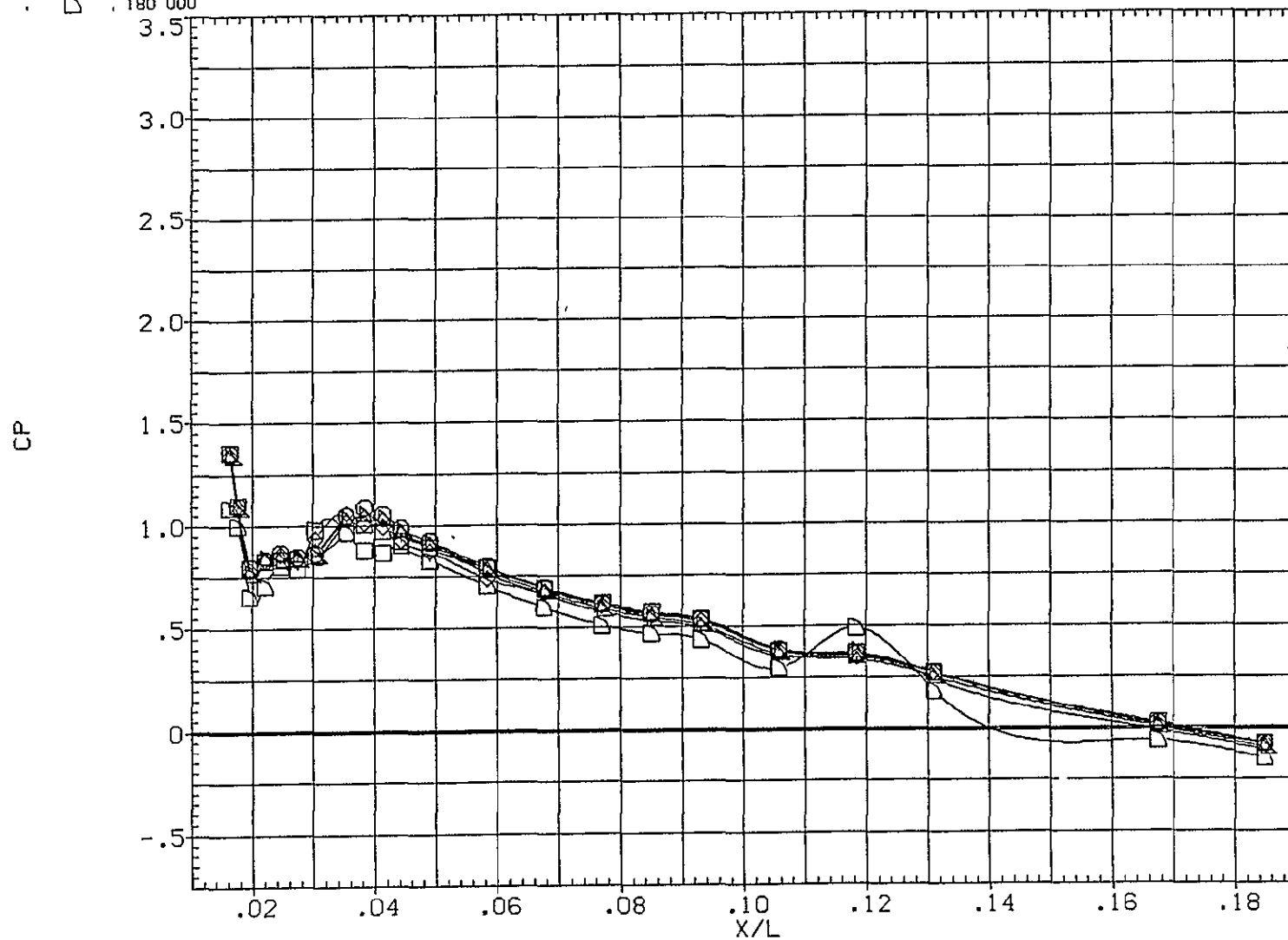


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

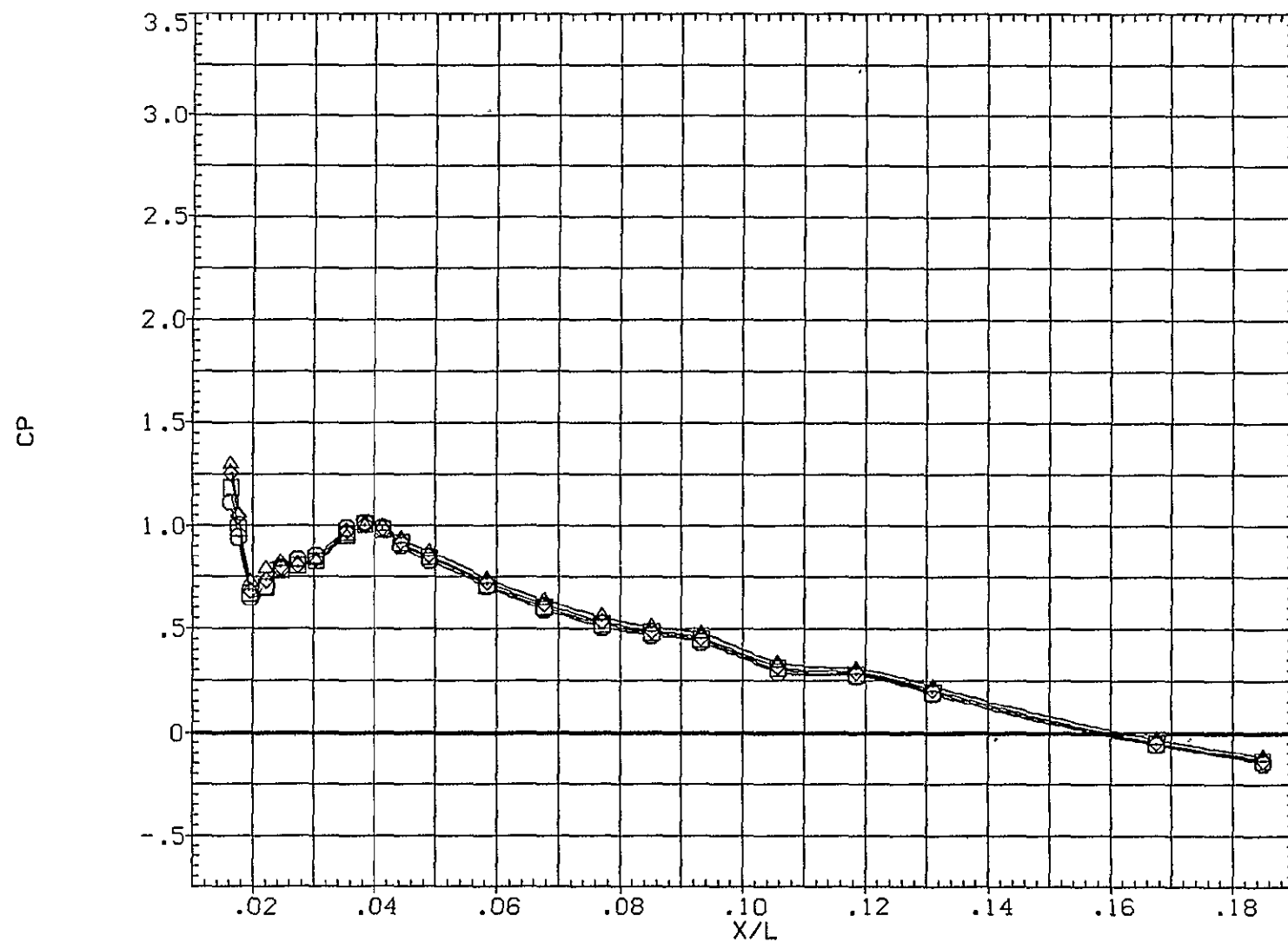
(B16004)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-2.040	1.204	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
D	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.01
○	202.500	-2.040	1.204				
□	225.000						
◇	247.500						
△	270.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16004)

SYMBOL

THETA

ALPHA

MACH

PARAMETRIC VALUES

BETA

.000

PHI

.000

○

.000

□

22.500

◇

45.000

△

67.500

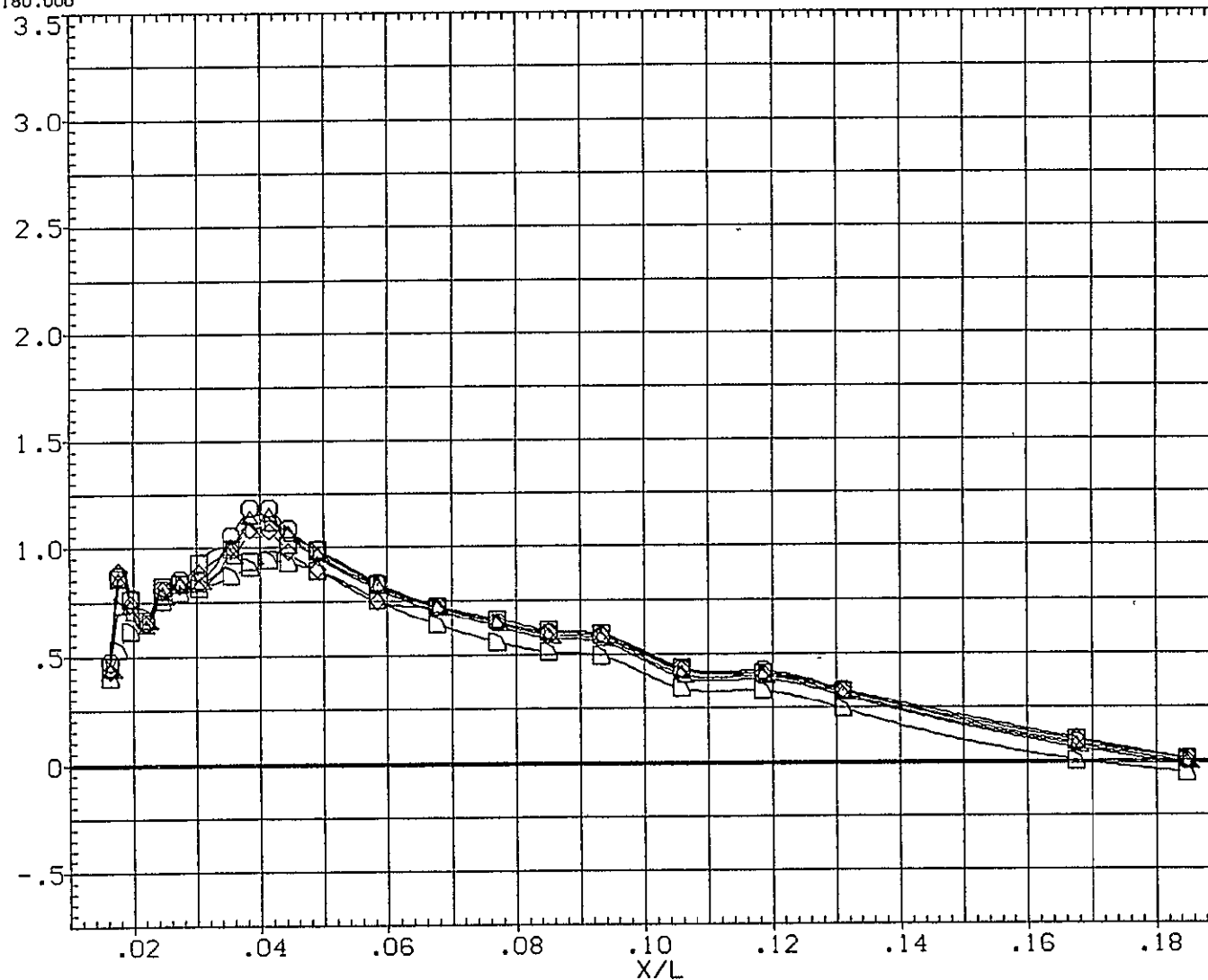
▽

90.000

◇

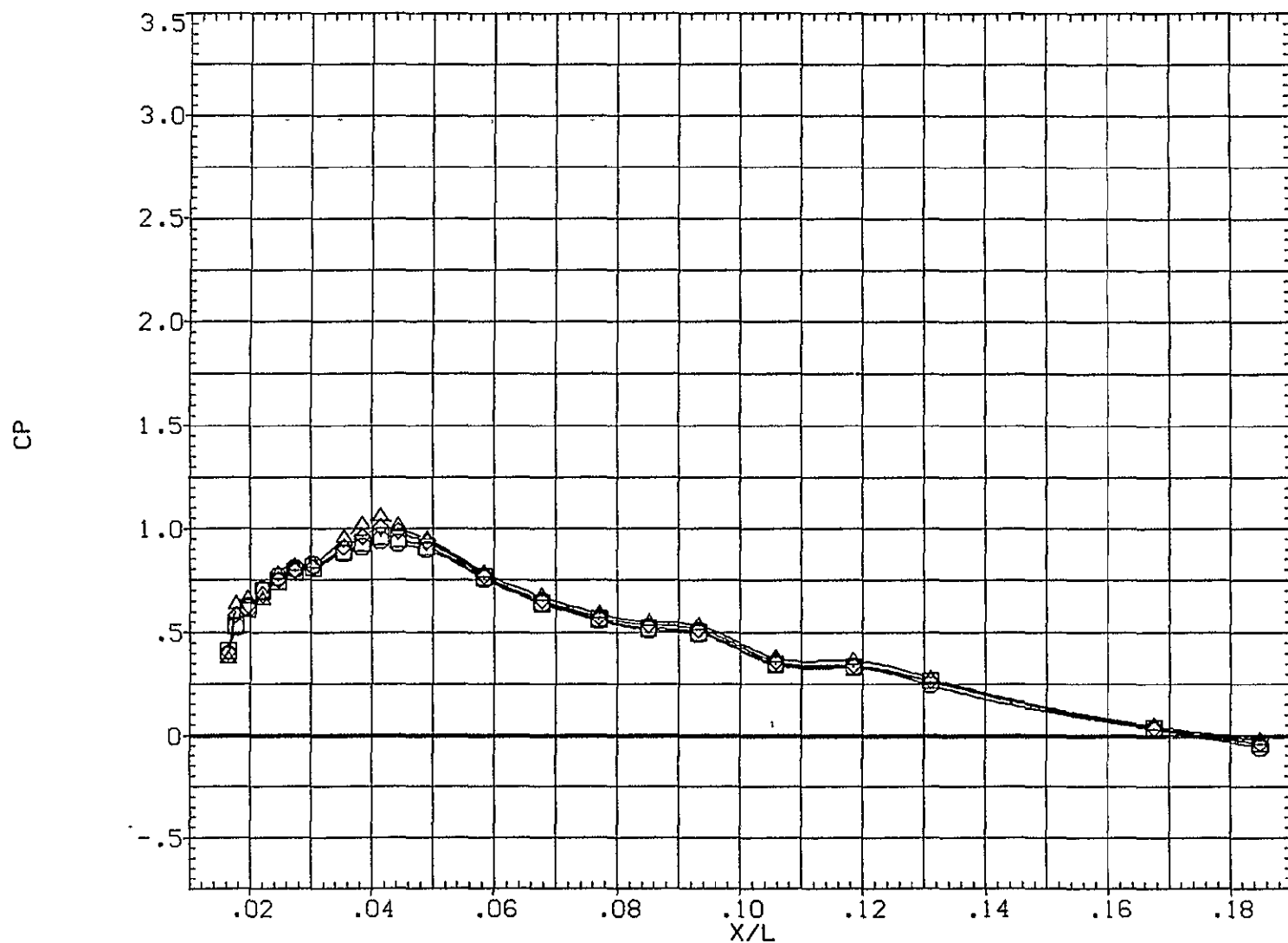
180.000

CP



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	202.500	-2.040	1.463	.000	PHI
□	225.000				
◇	247.500				
△	270.000				

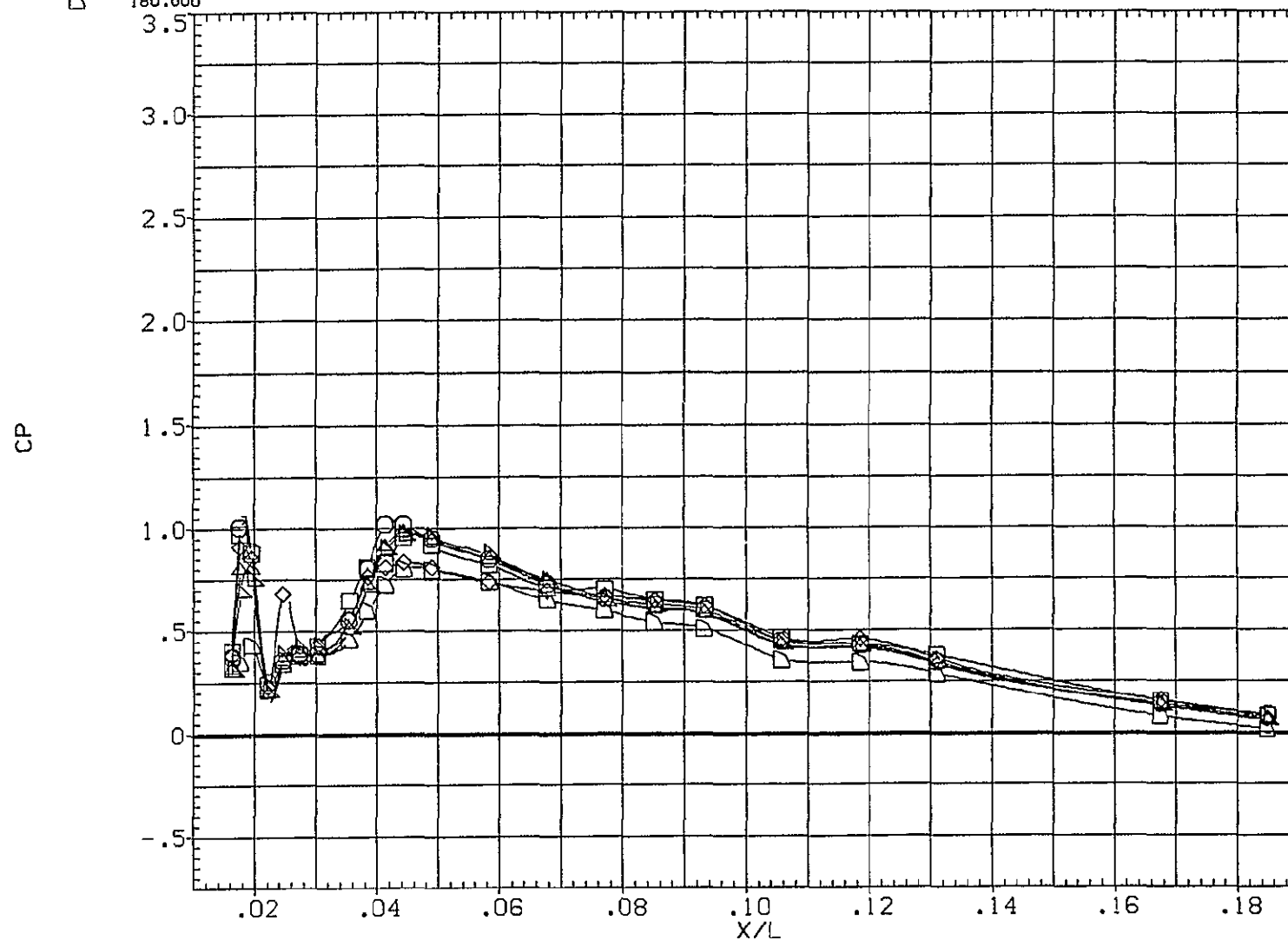


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

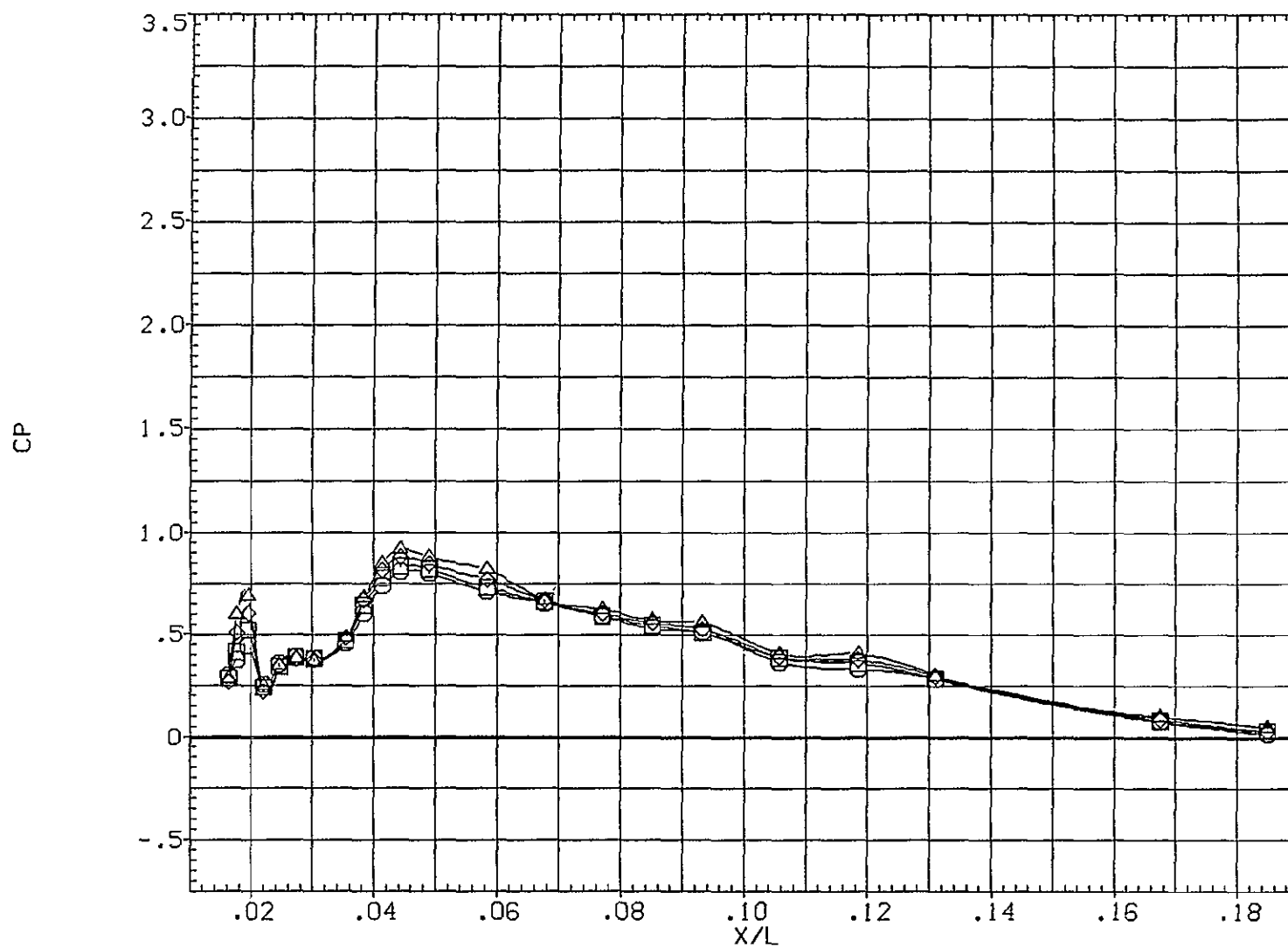
(B1G004)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	
○	.000	-2.060	1.962	.000	PHI	.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	-2.060	1.962		.000		.000
□	225.000						
◇	247.500						
△	270.000						



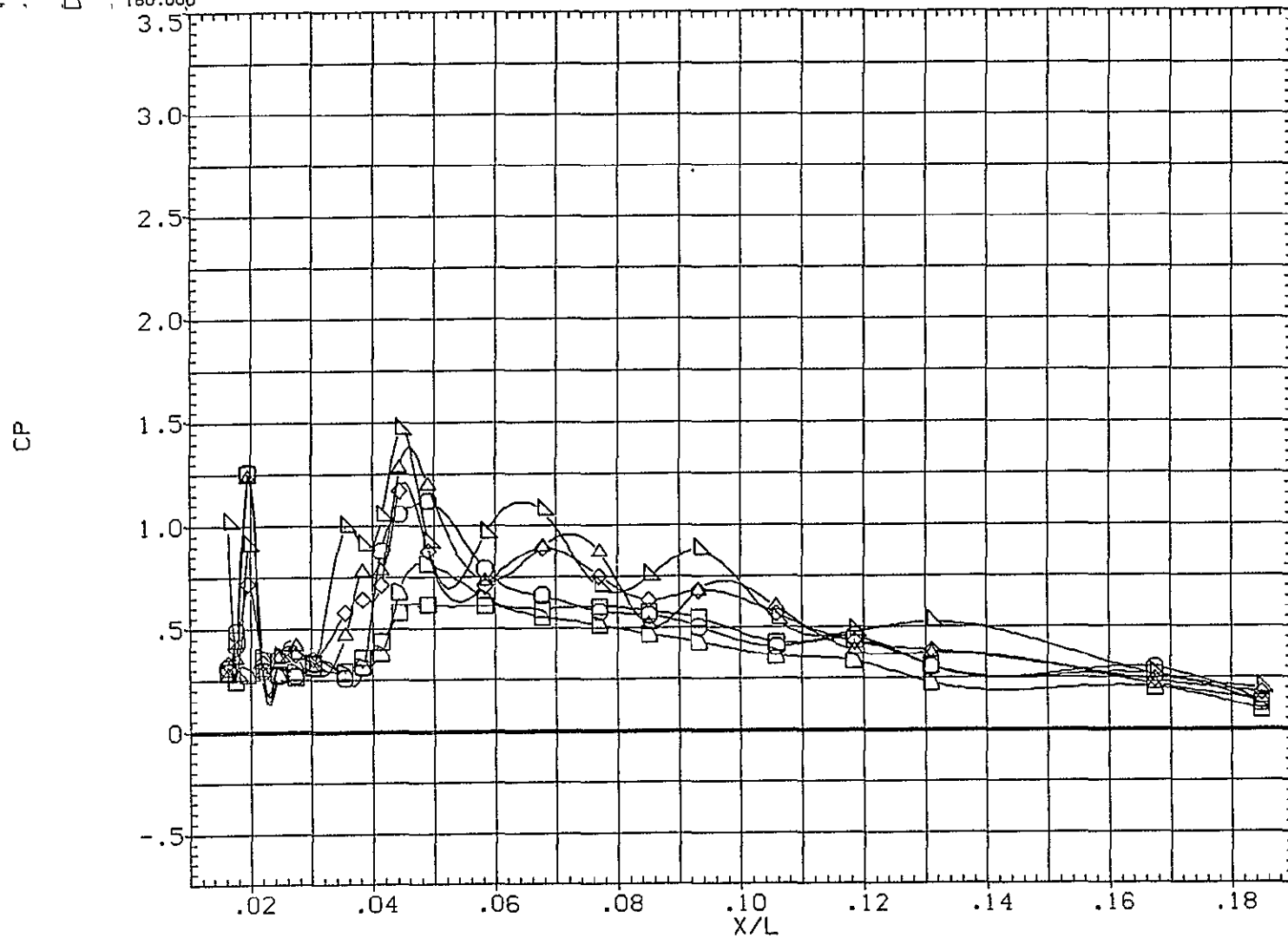
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

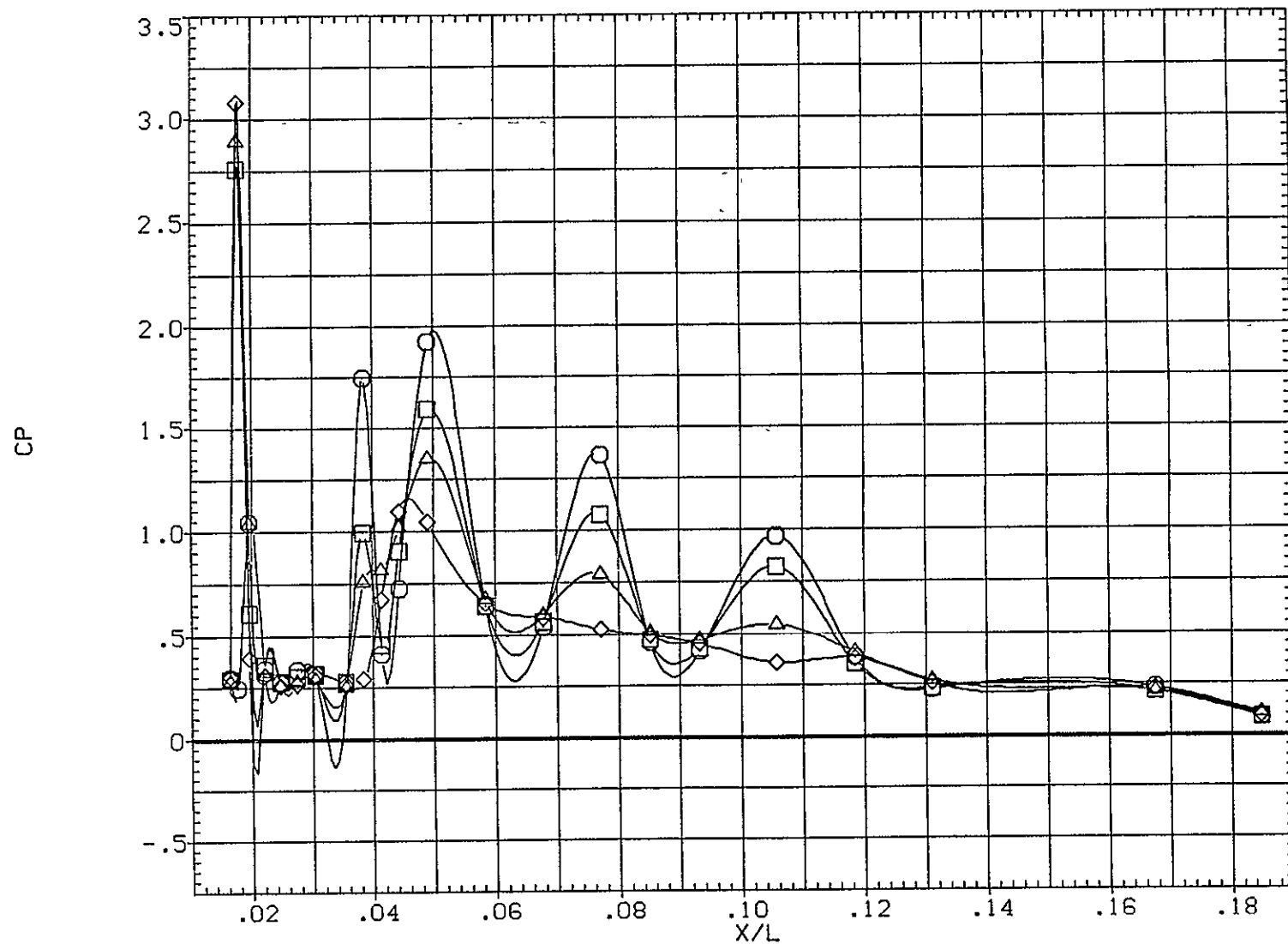
(B1G004)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-2.060	4.960	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◁	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.00
○	202.500	-2.060	4.960				
□	225.000						
◇	247.500						
△	270.000						

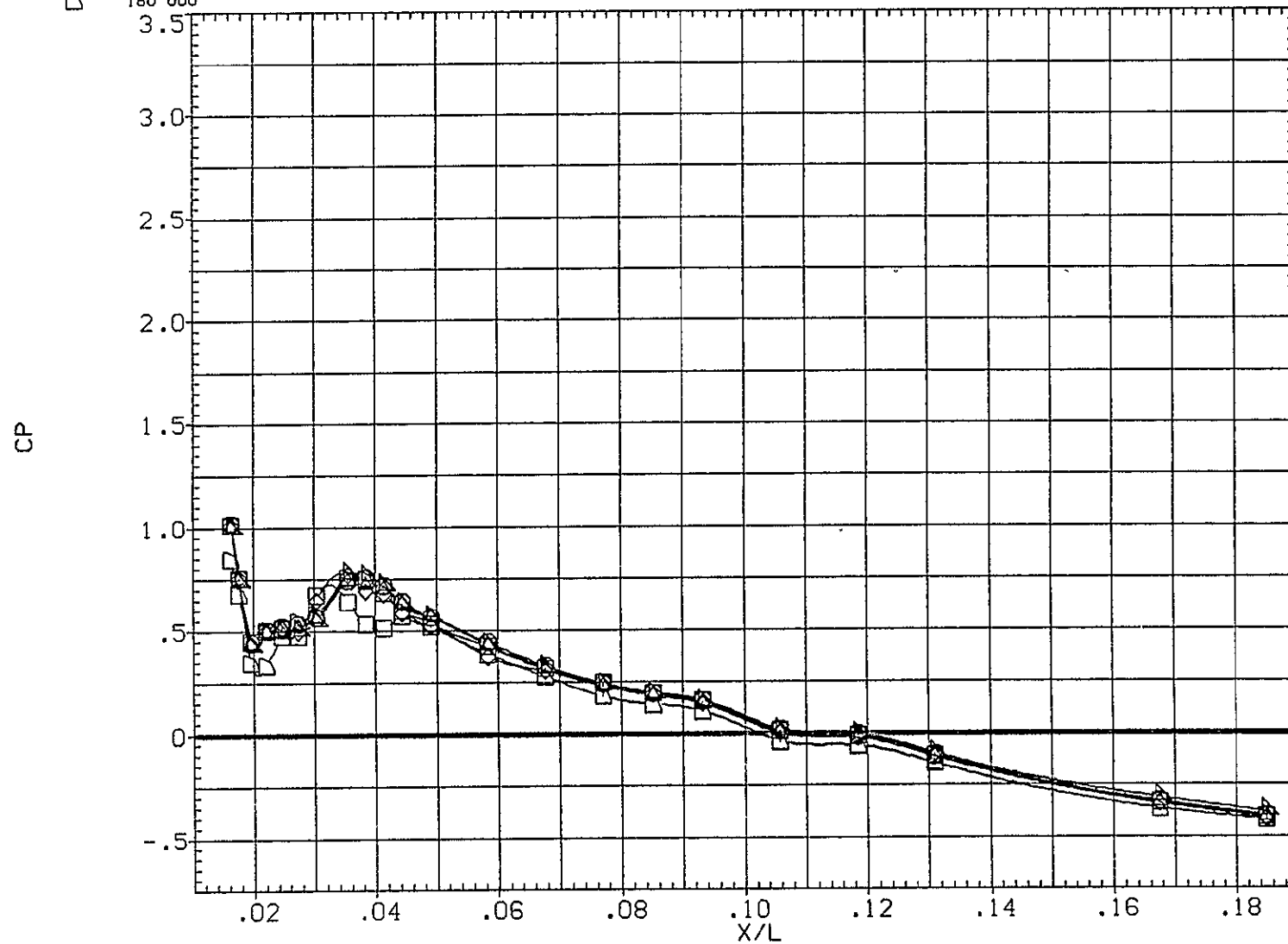


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

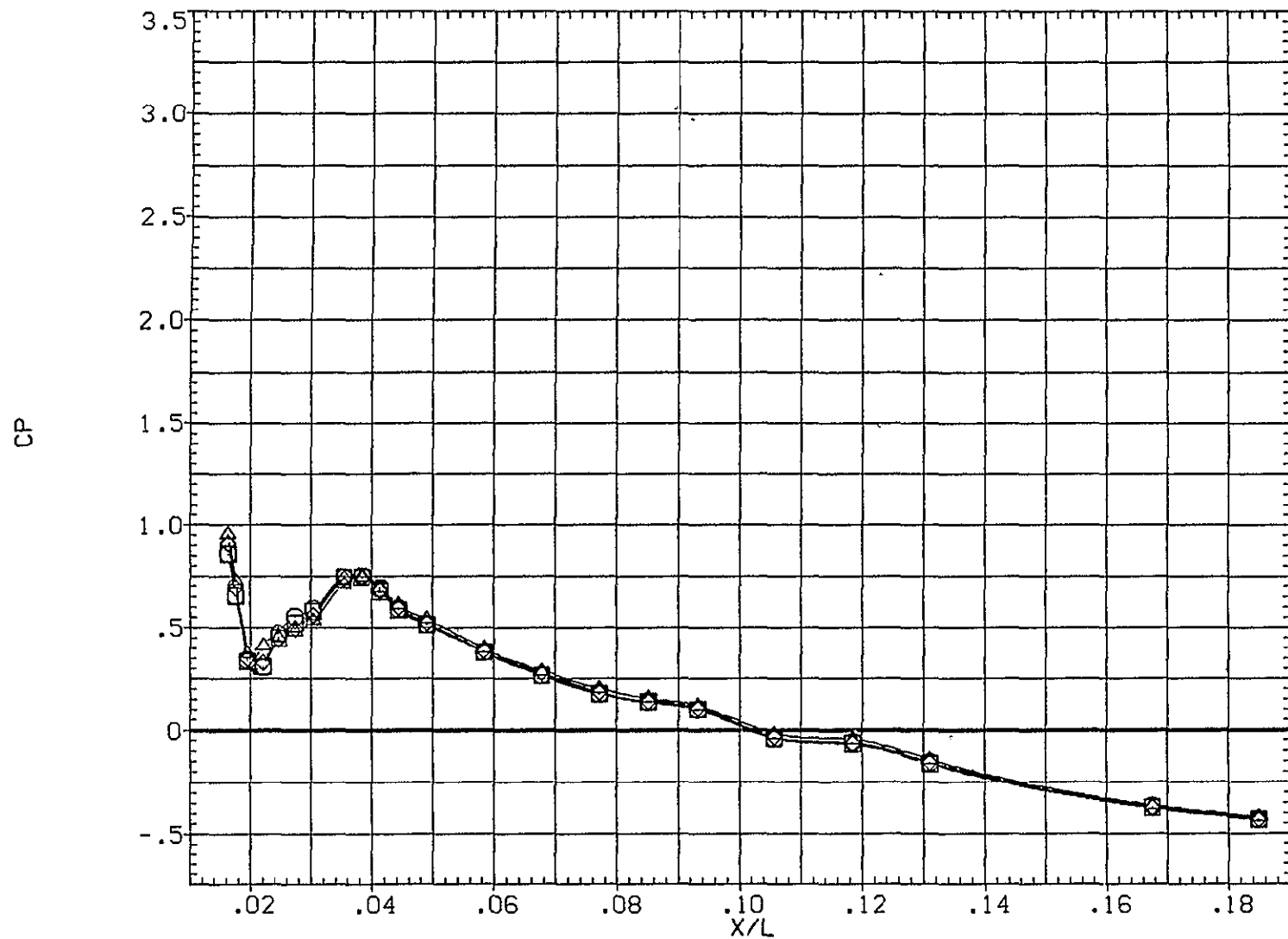
(B1G005)

SYMBOL ○ □ ◇ △ ▽ ◇	THETA	ALPHA	MACH	PARAMETRIC VALUES		
	.000	-1.040	.600	BETA	.000	PHI
	22.500					.000
	45.000					
	67.500					
	90.000					
180.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	202.500	-1.040	.600	.000	PHI .01
□	225.000				
◇	247.500				
△	270.000				

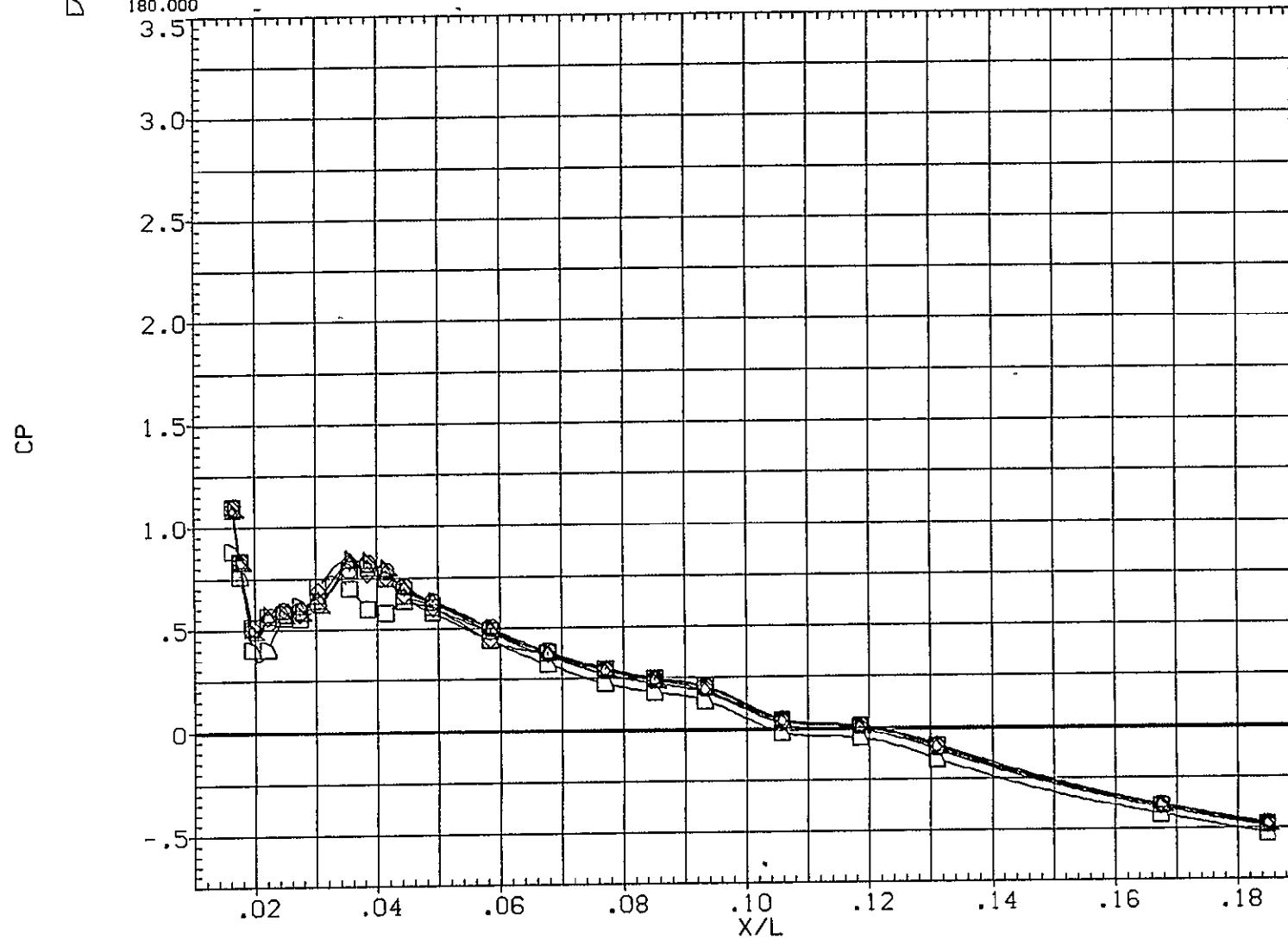


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

## MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

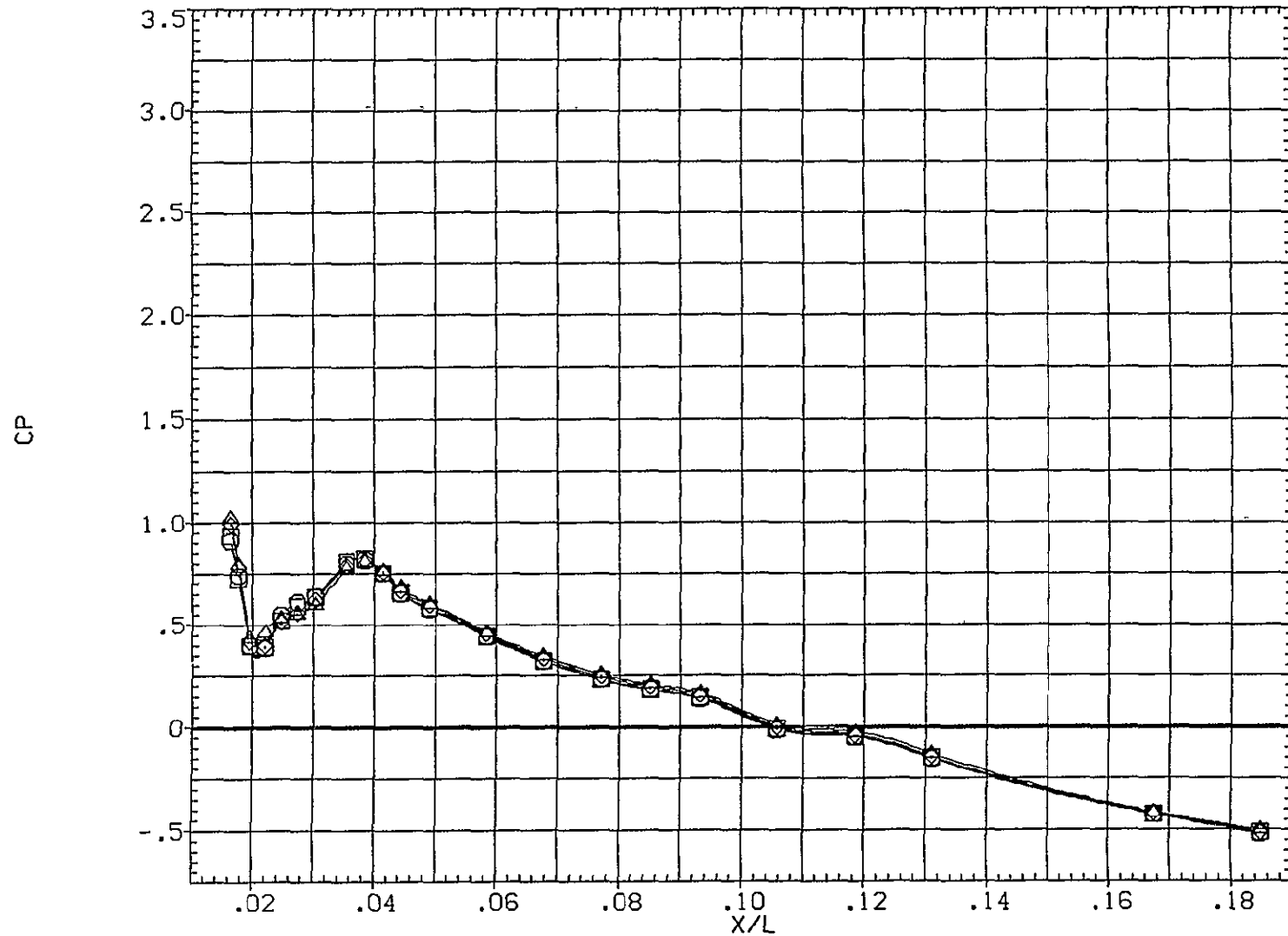
(B1G005)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-1.030	.799	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	-1.030	.799				.00
□	225.000						
◇	247.500						
△	270.000						

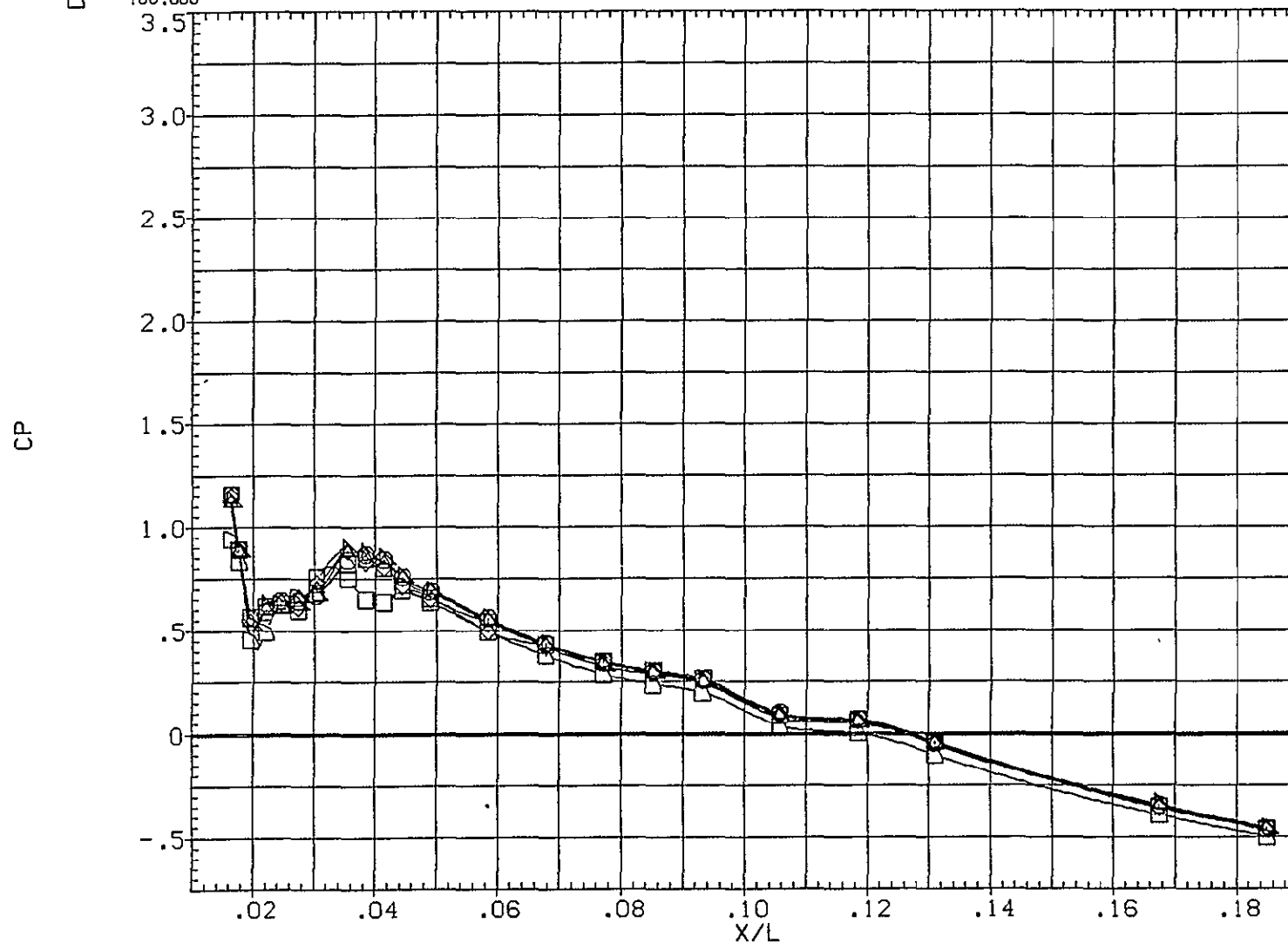


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

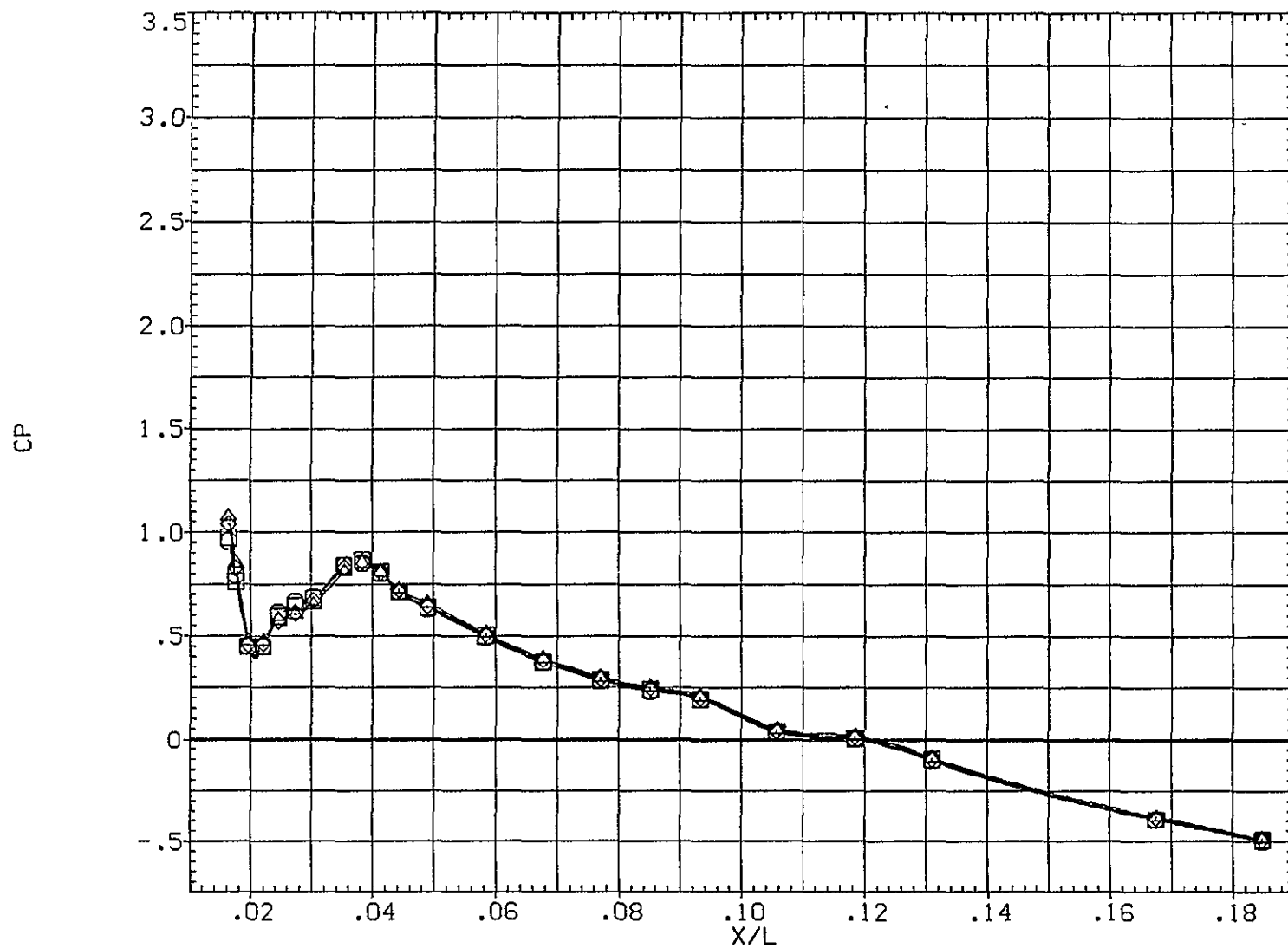
(B1G005)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-1.040	.905	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
D	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.UW
○	202.500	-1.040	.905				
□	225.000						
◇	247.500						
△	270.000						



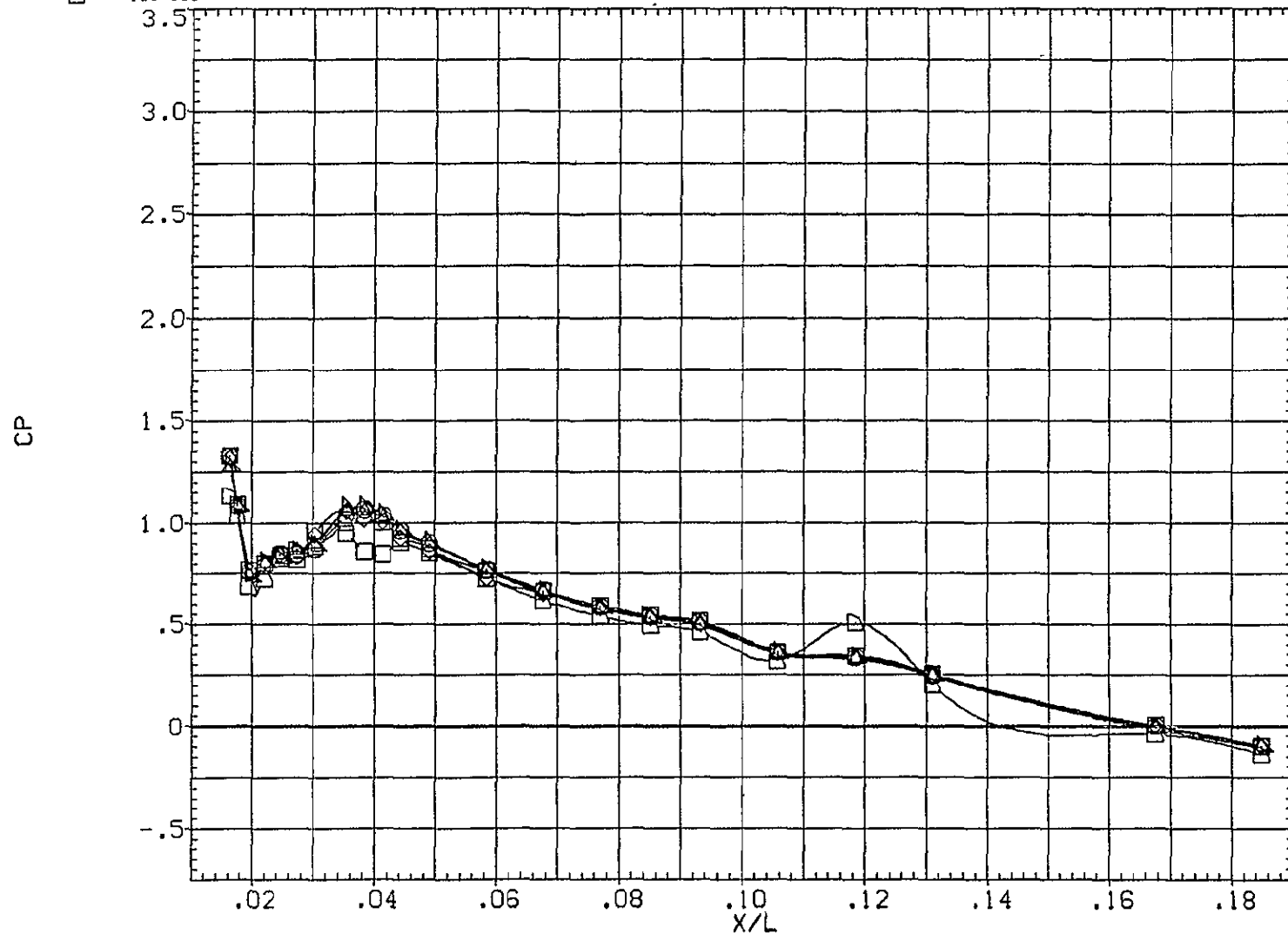
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

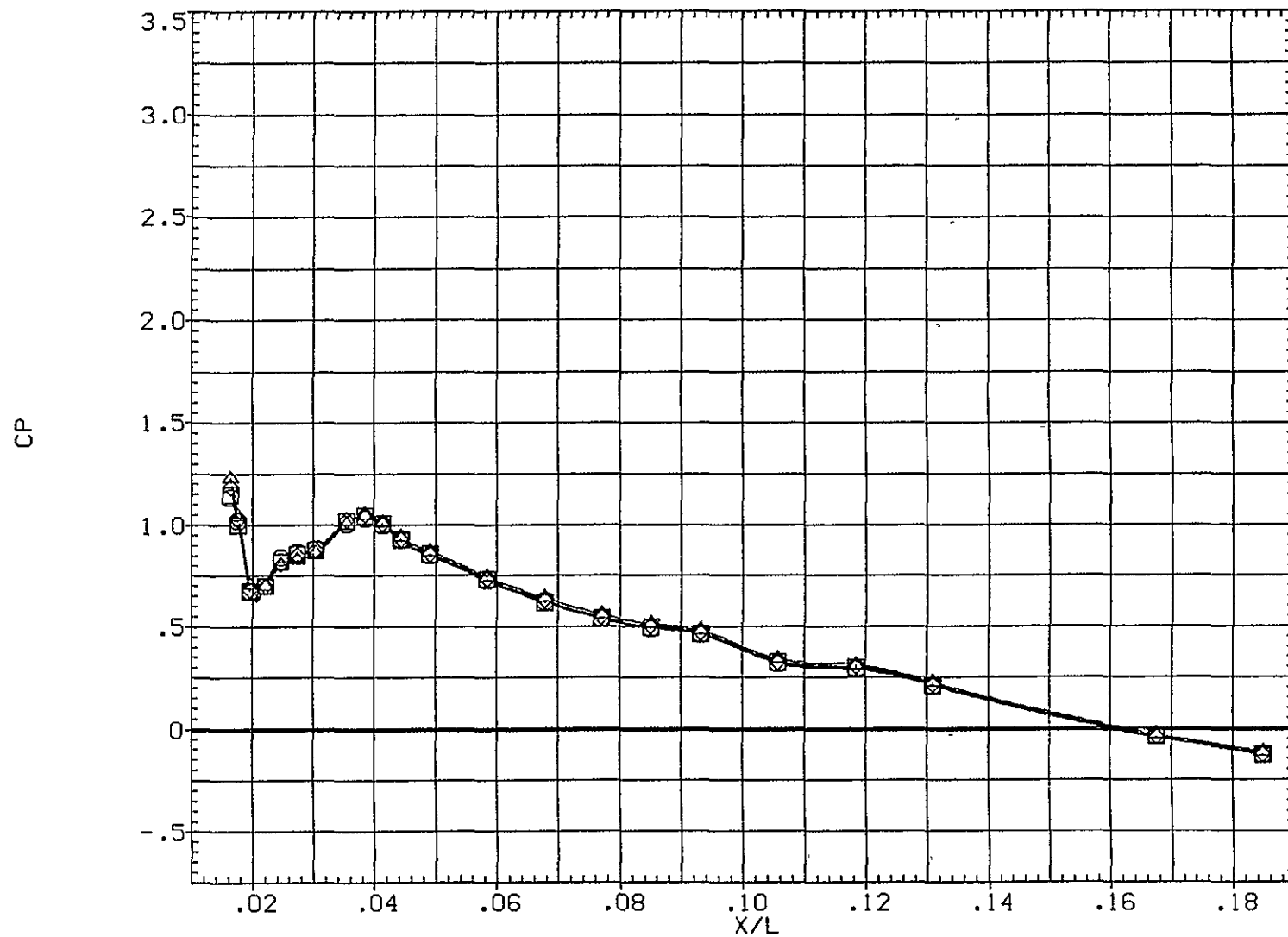
(B1G005)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES		
○	.000	-1.040	1.203		.000	PHI	.000
□	22.500						
◇	45.000						
△	67.500						
▽	90.000						
◇	180.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	-1.040	1.203	BETA	.000	PHI
□	225.000					.C
◇	247.500					
△	270.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G005)

SYMBOL

THETA

ALPHA

MACH

BETA

PARAMETRIC VALUES

.000

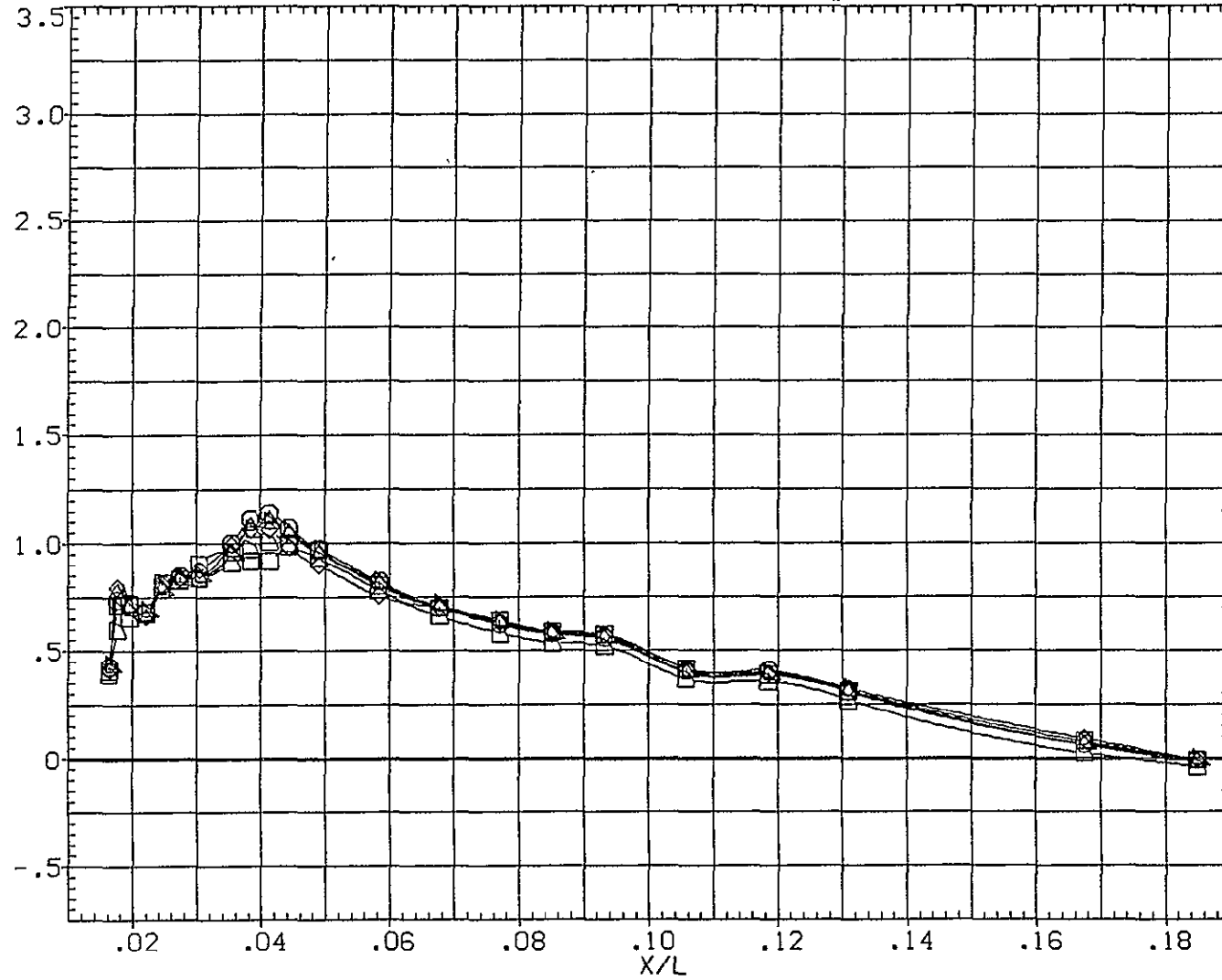
PHI

.000

○  
□  
◇  
△  
▽  
○  
○

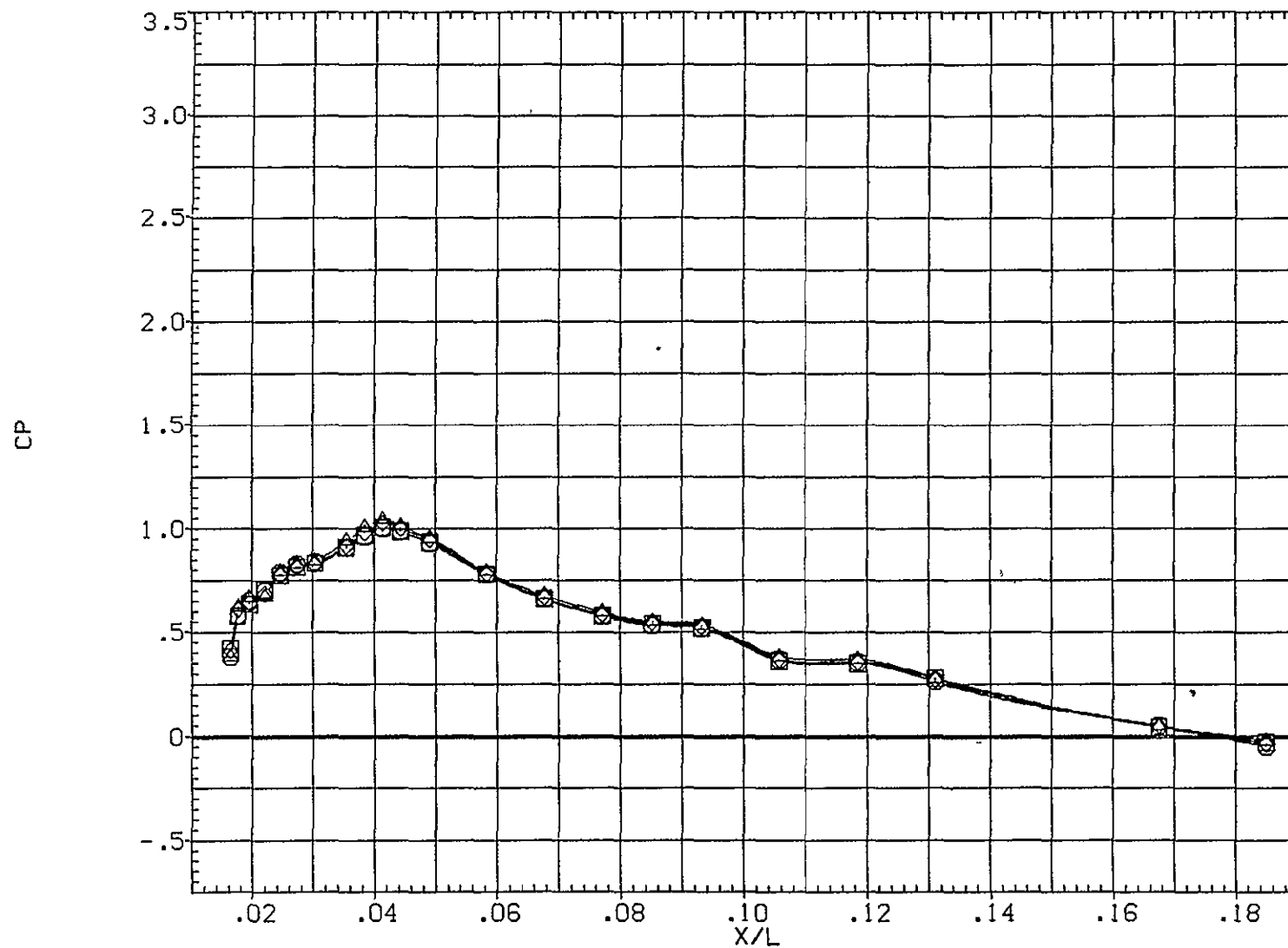
.000  
22.500  
45.000  
67.500  
90.000  
180.000

CP



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	-1.060	1.464	.000			.000
□	225.000						
◇	247.500						
△	270.000						

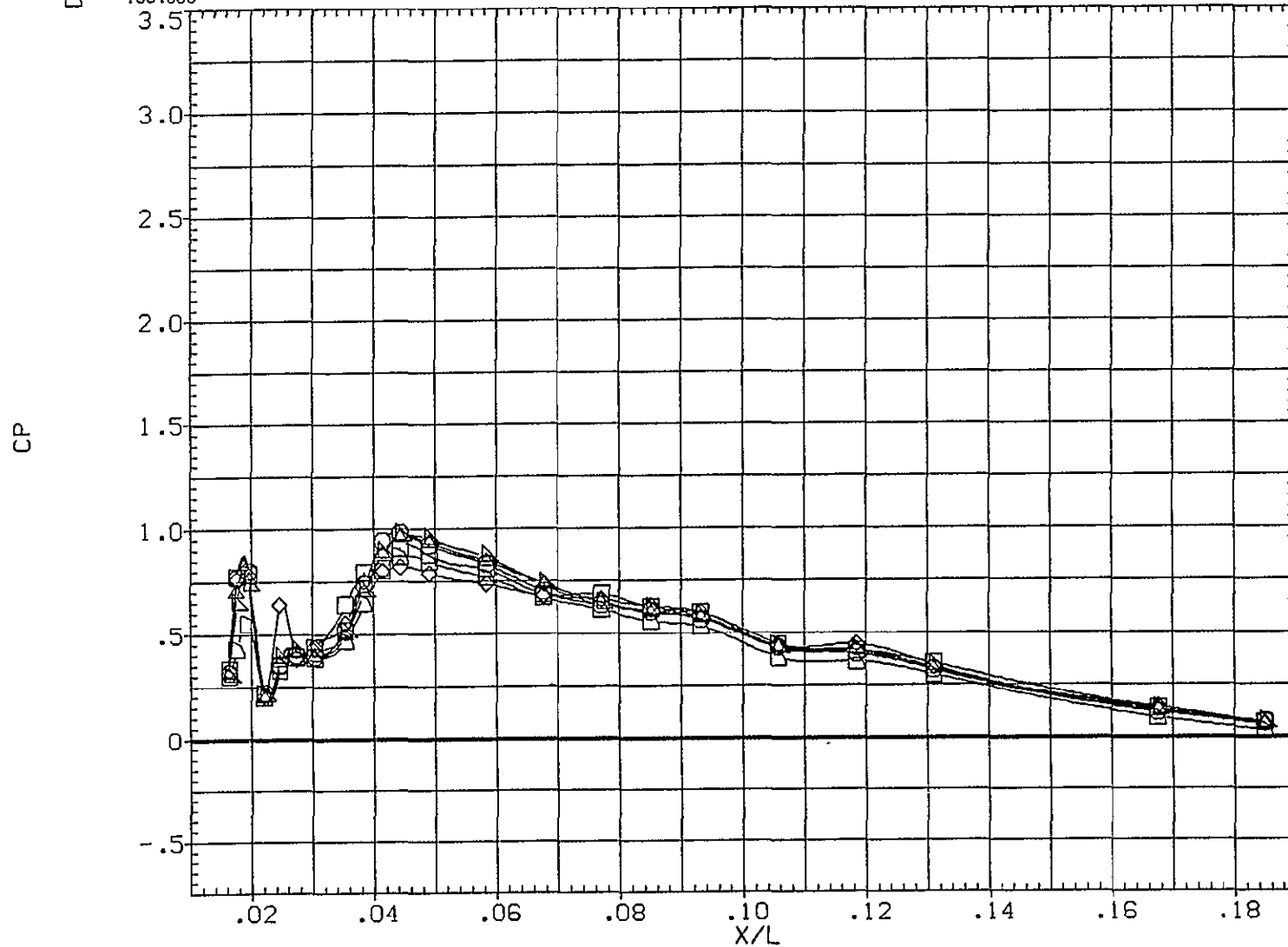


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

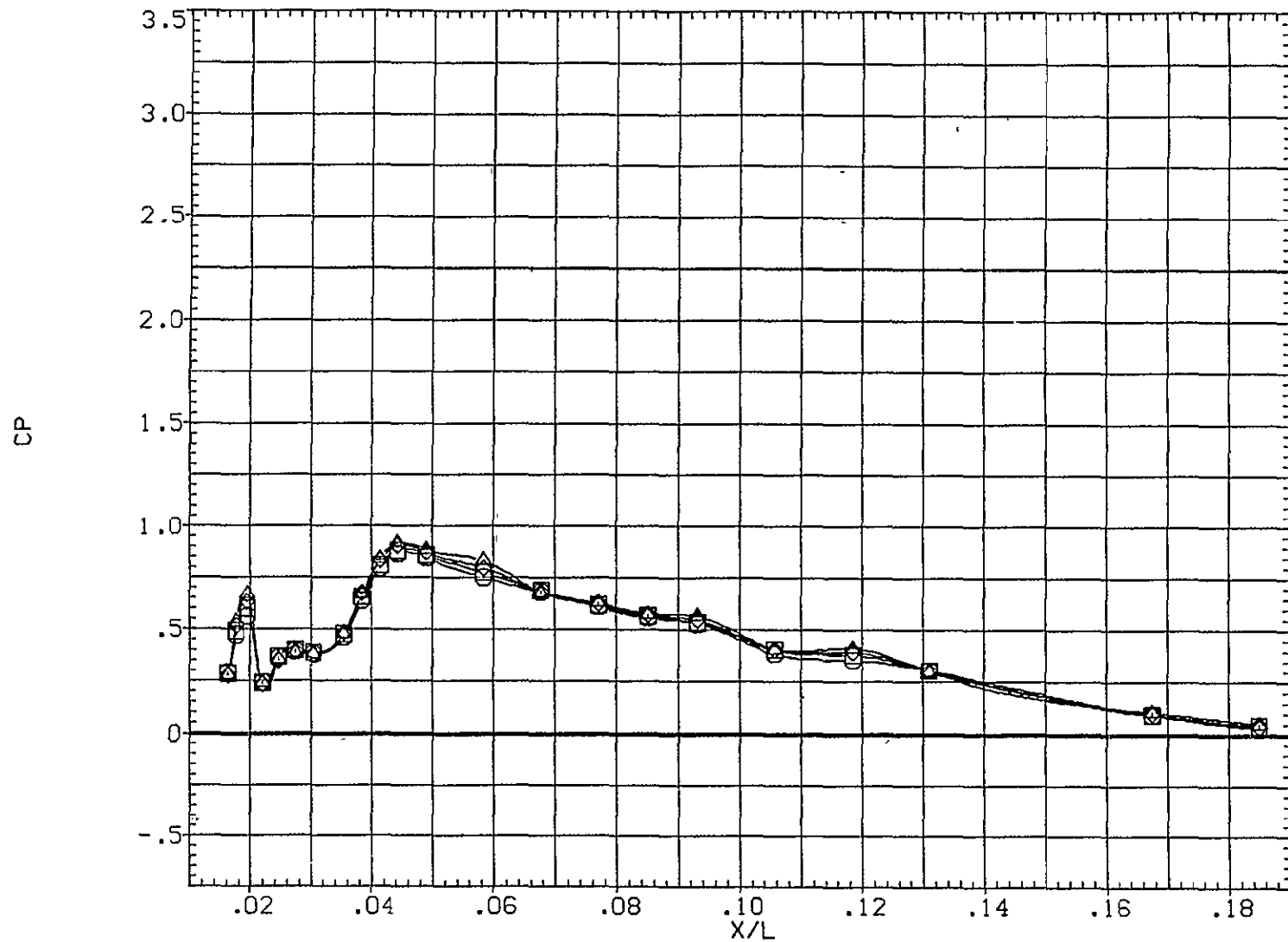
(B1G005)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
	000	-1.060	1.962	BETA	PHI	.000
○	22.500					
□	45.000					
◇	67.500					
△	90.000					
▽	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES			
○	202.500	-1.060	1.962	BETA	.000	PHI	.01
□	225.000						
◇	247.500						
△	270.000						

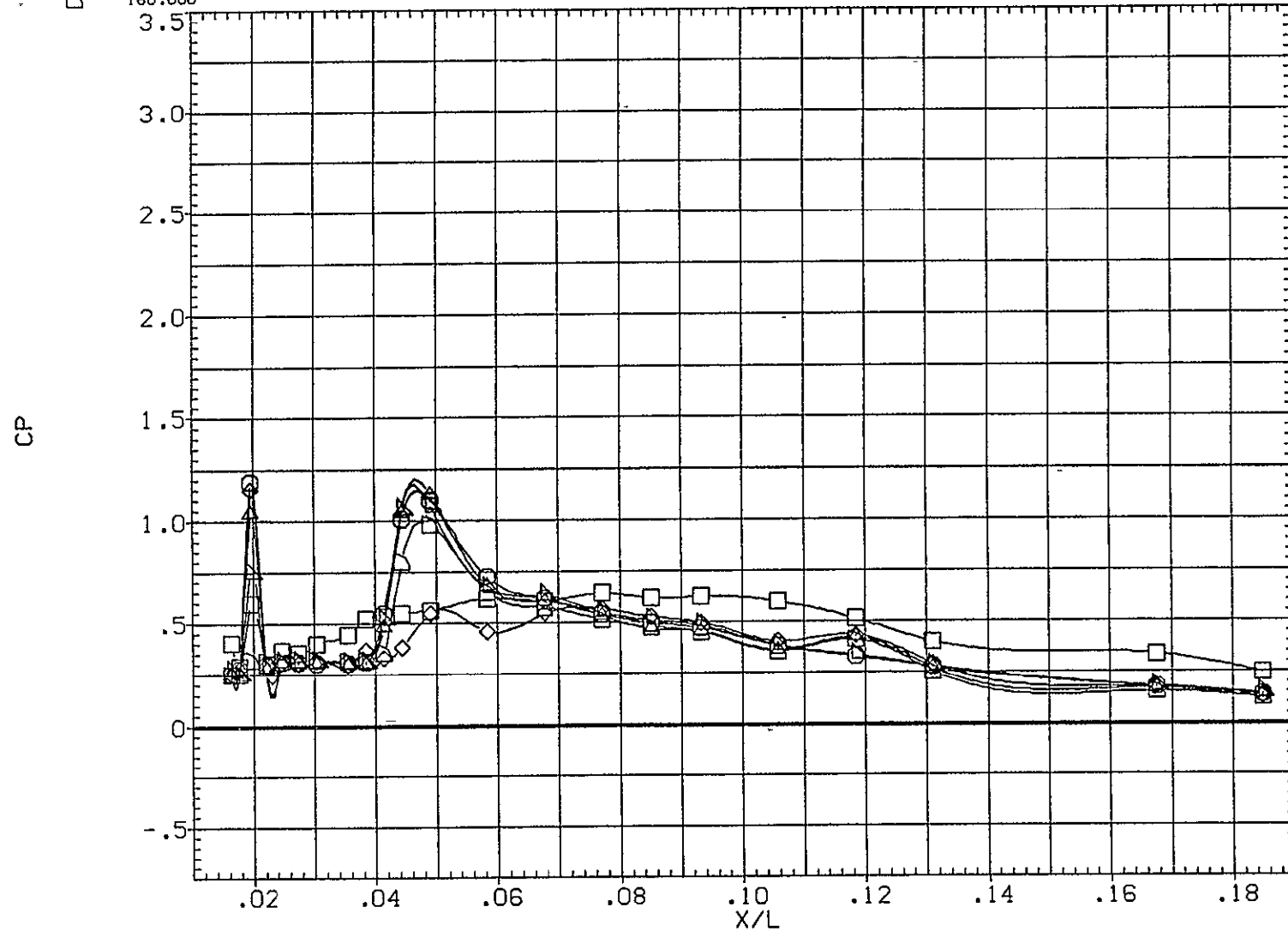


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

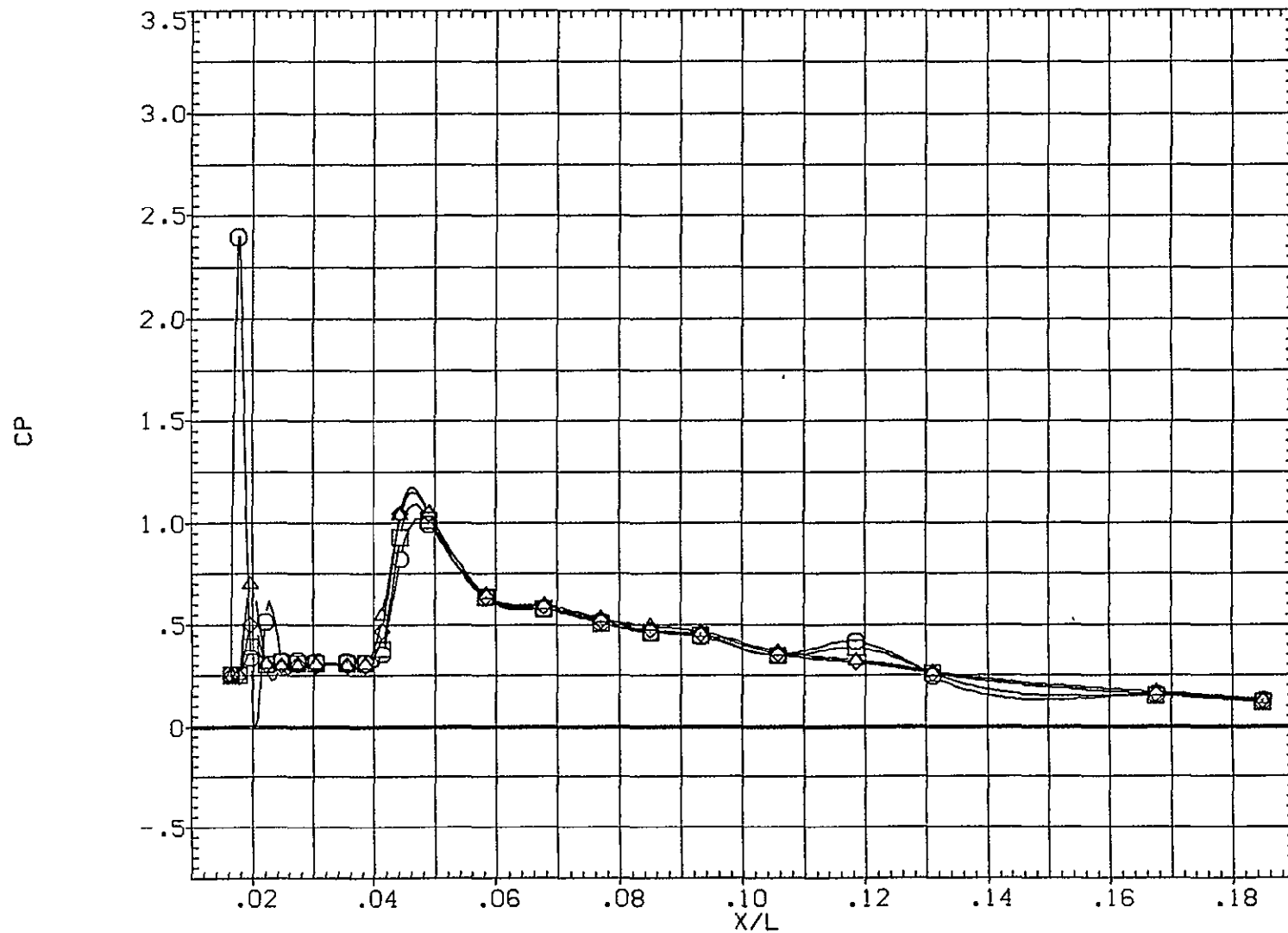
(B1G005)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-1.040	4.960	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	202.500	-1.040	4.960	.000	PHI .00
□	225.000				
◇	247.500				
△	270.000				



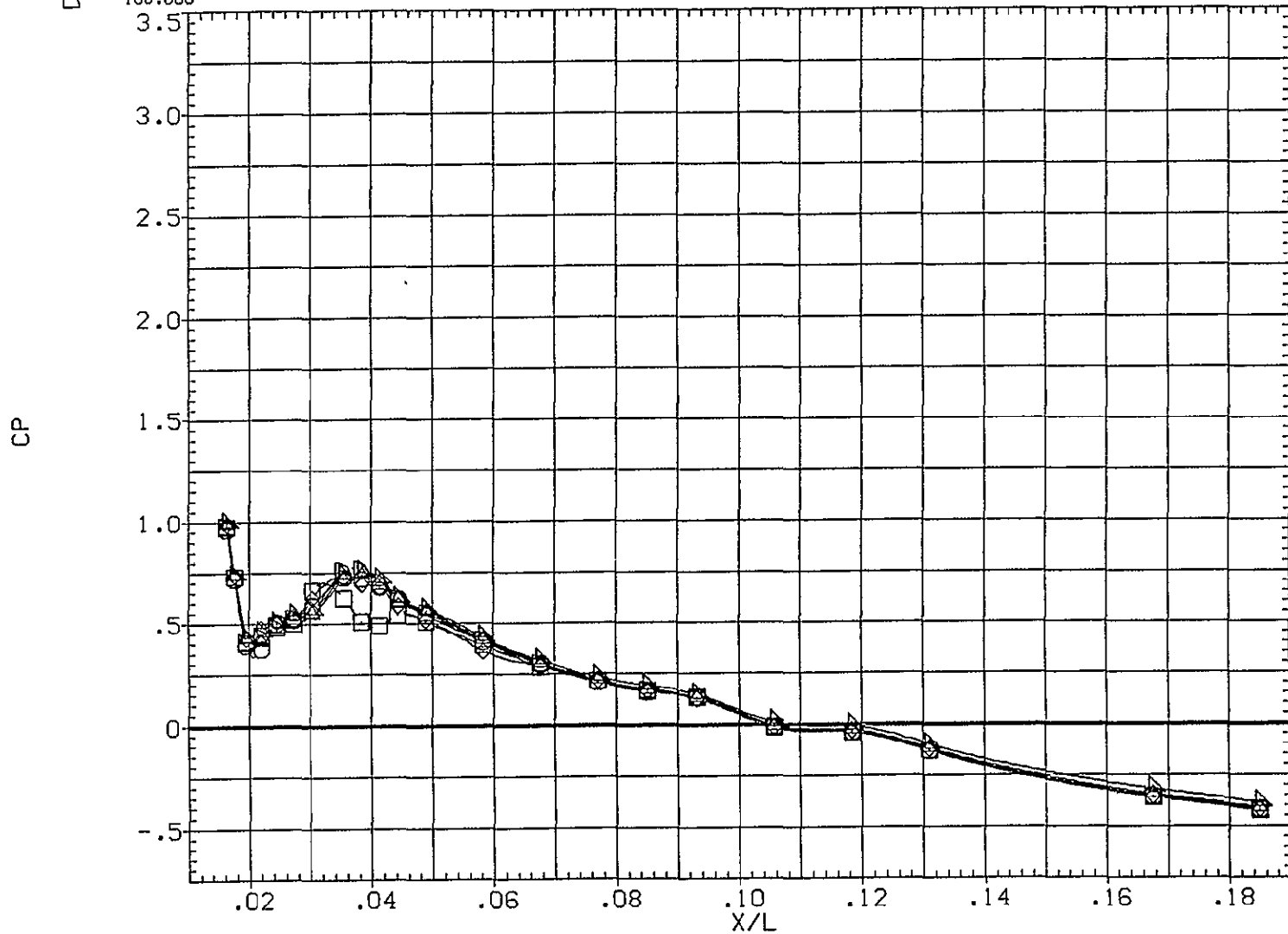
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

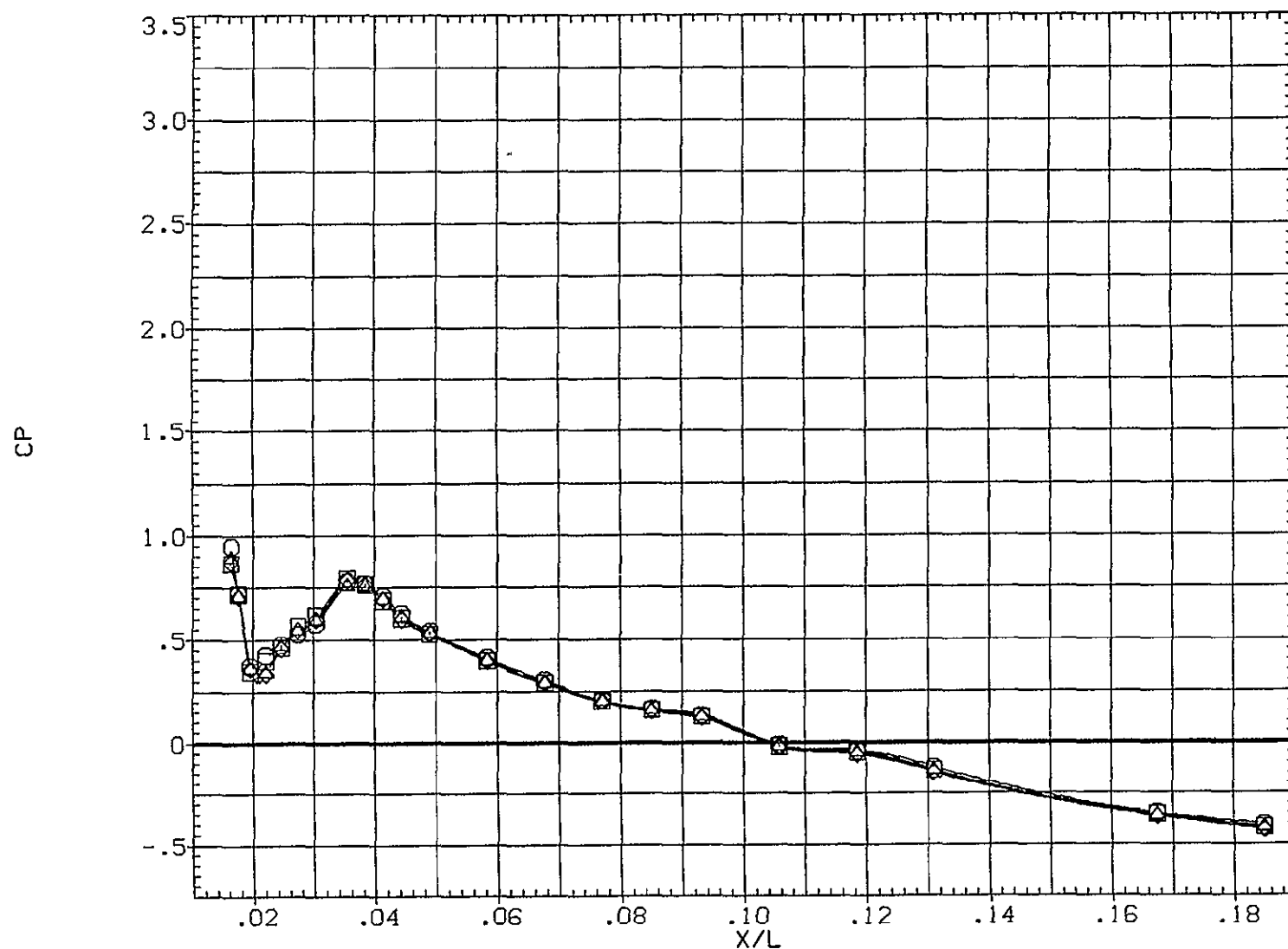
(B16006)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES		
○	.000	-.040	.598		.000	PHI	.000
□	22.500						
◇	45.000						
△	67.500						
▽	90.000						
▷	180.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

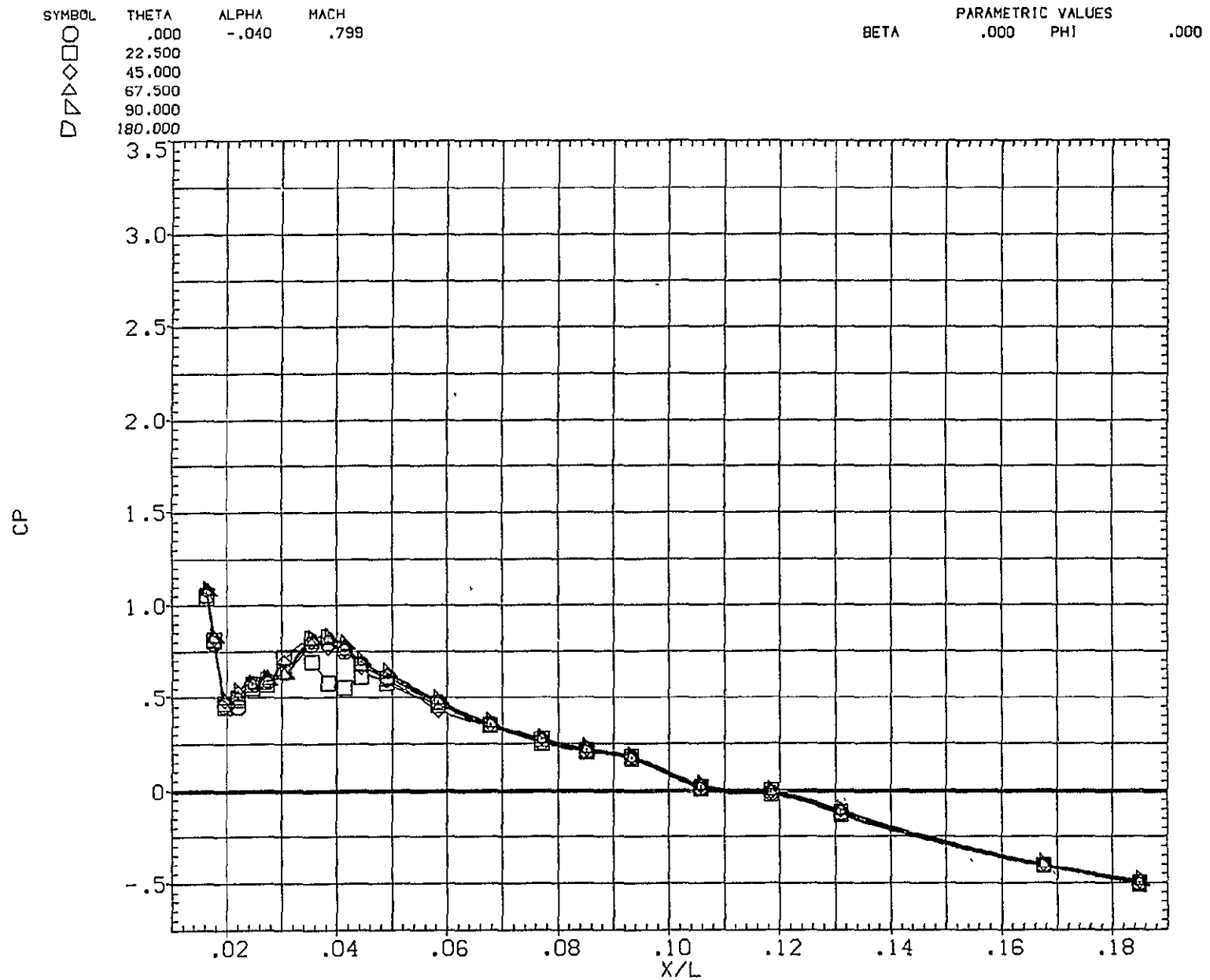
SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	-.040	.598	BETA	.000	PHI
□	225.000					.0
◇	247.500					
△	270.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

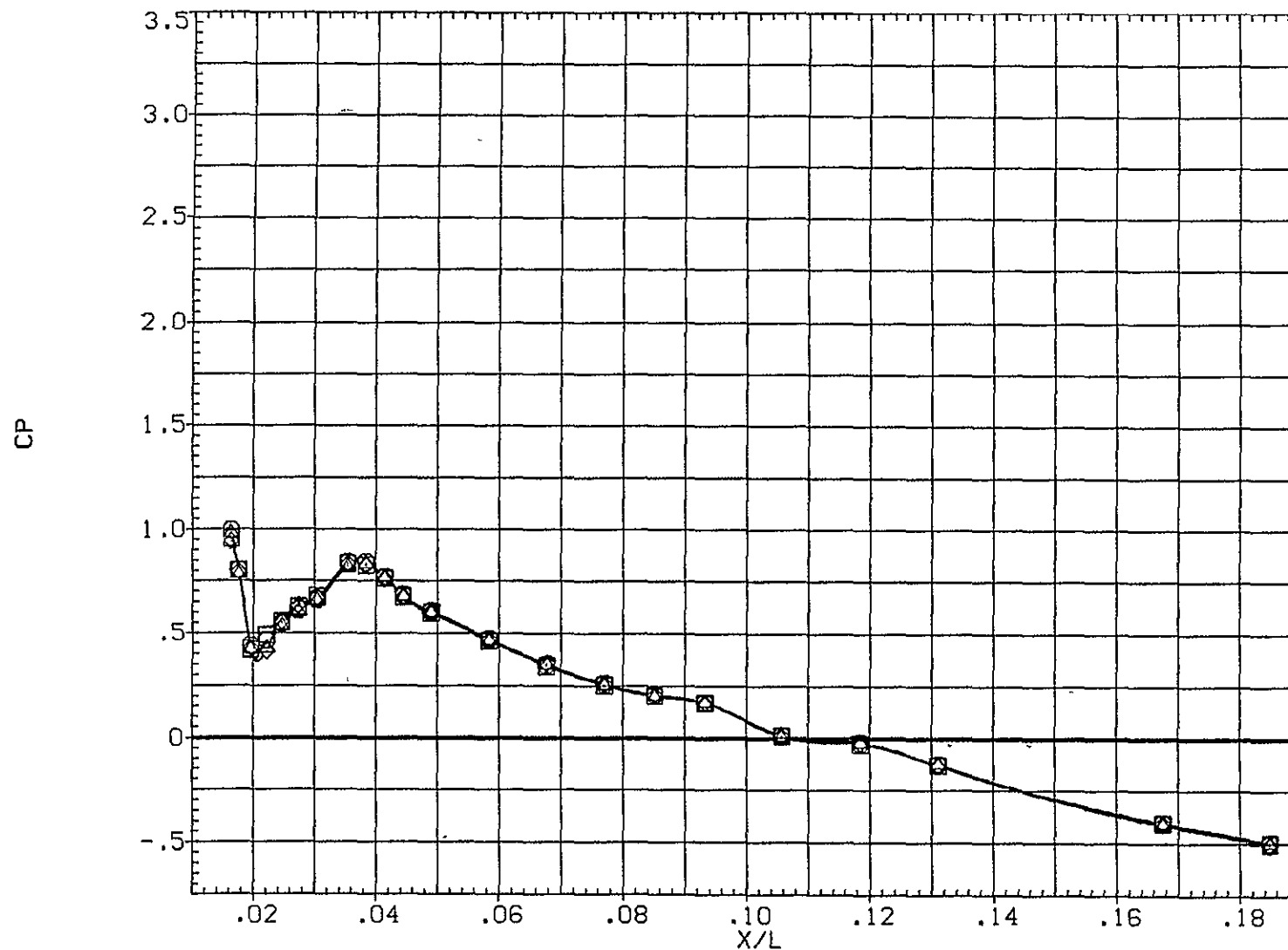
(B1G006)



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH
○	202.500	-.040	.799
□	225.000		
◇	247.500		
△	270.000		

PARAMETRIC VALUES	
BETA	PHI
.000	.00

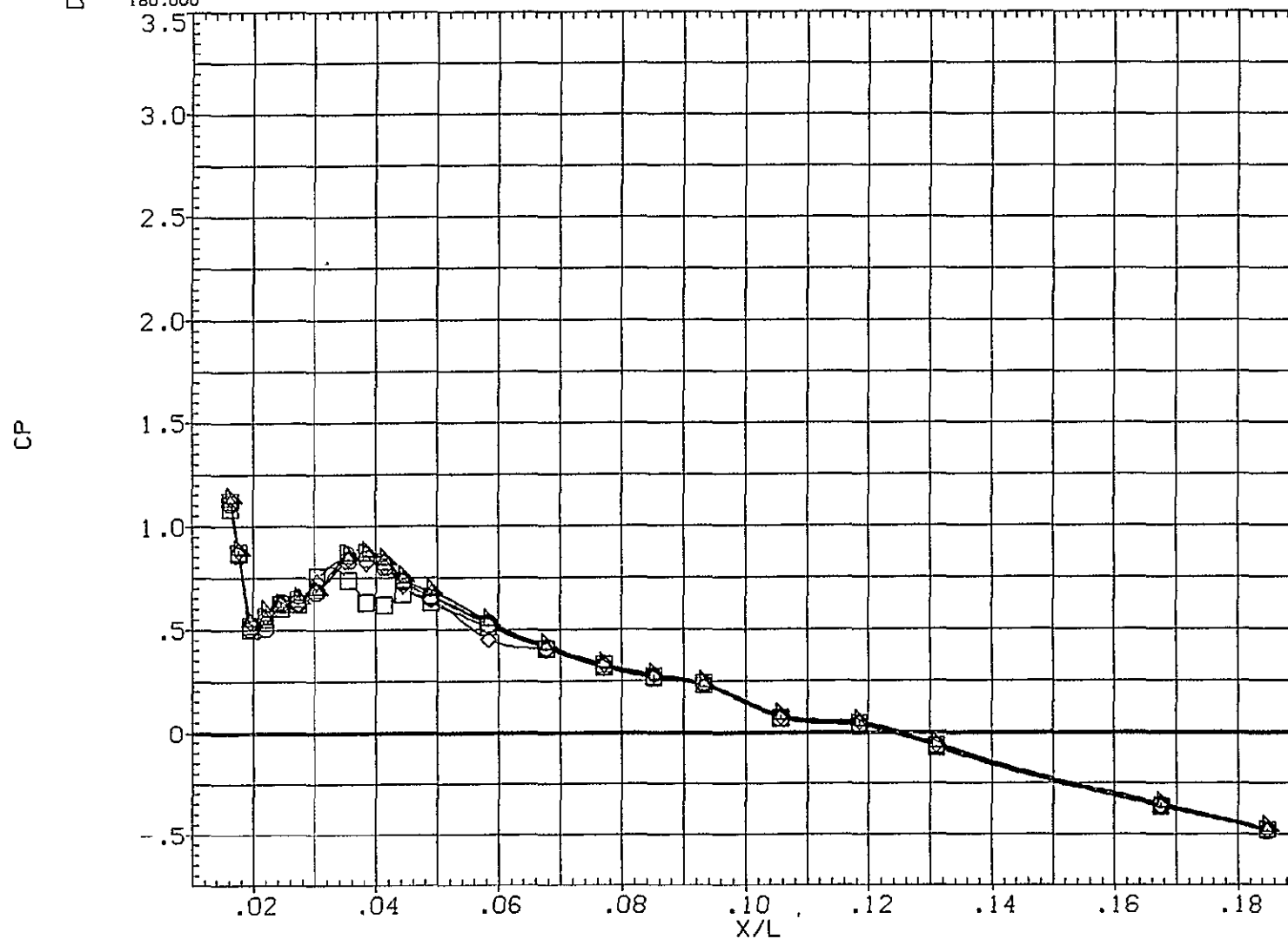


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

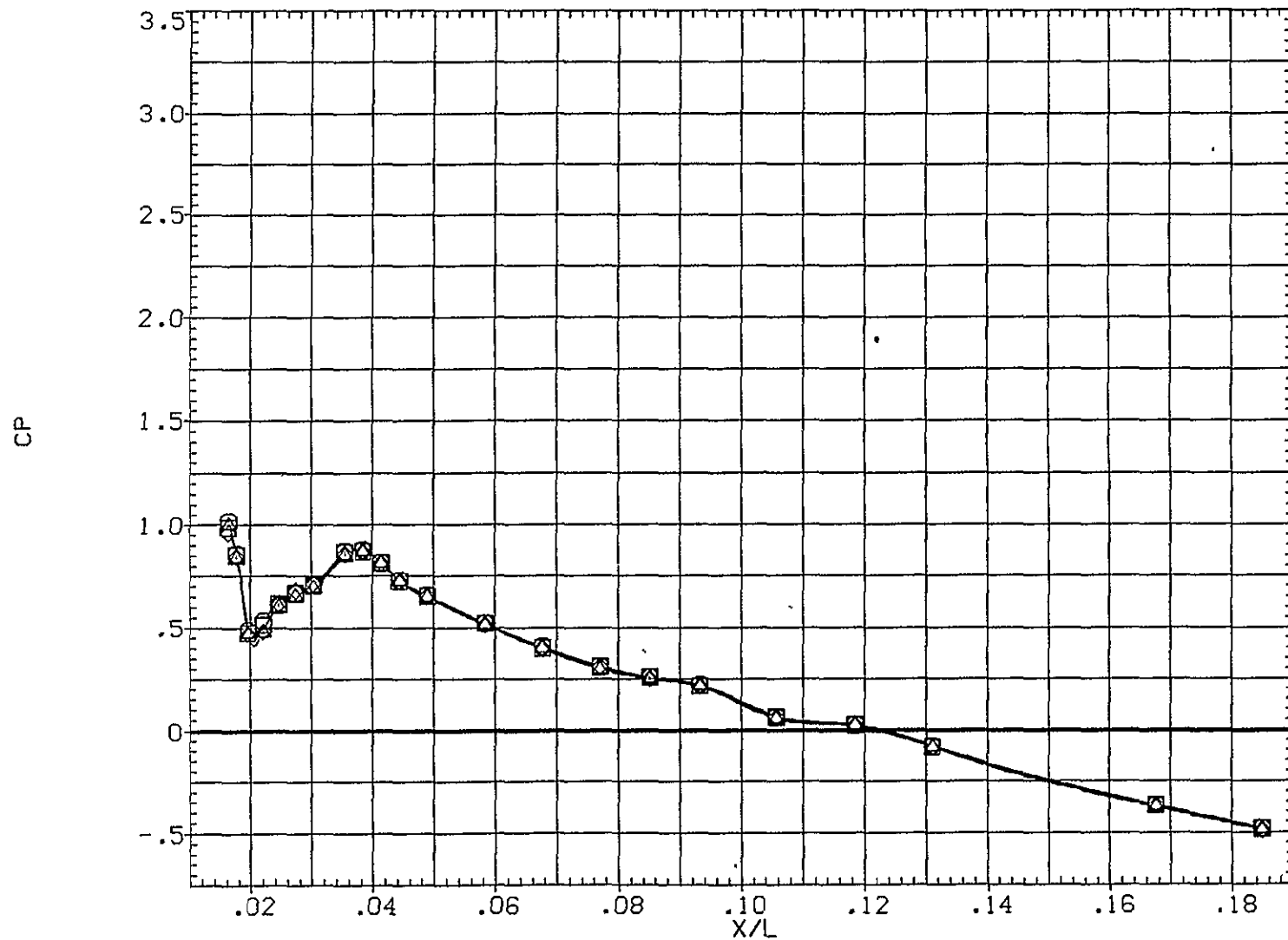
(B1G006)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	
○	.000	-.040	.906		PHI	.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	-.040	.906	BETA	.000	PHI
□	225.000					.000
◇	247.500					
△	270.000					

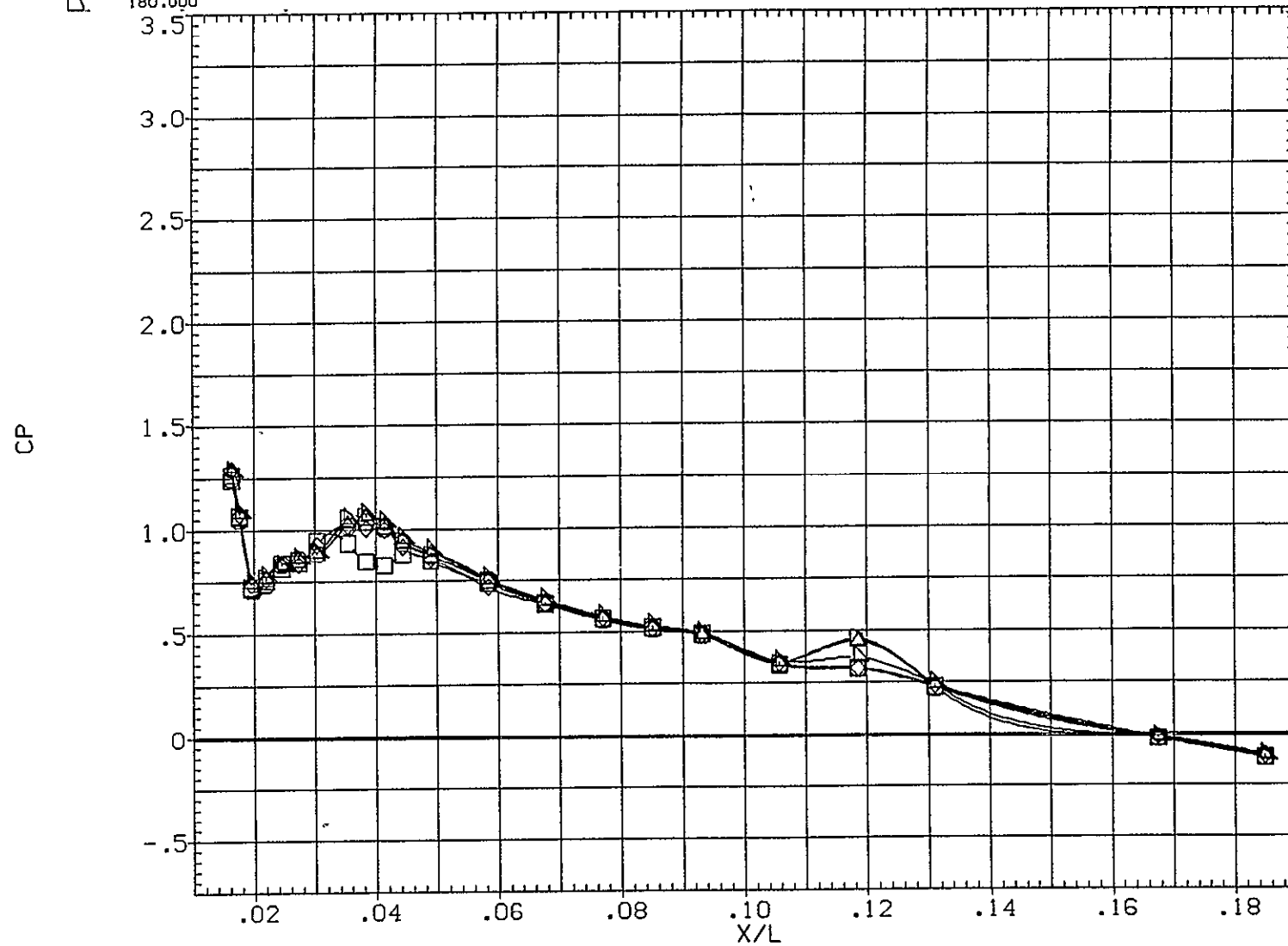


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

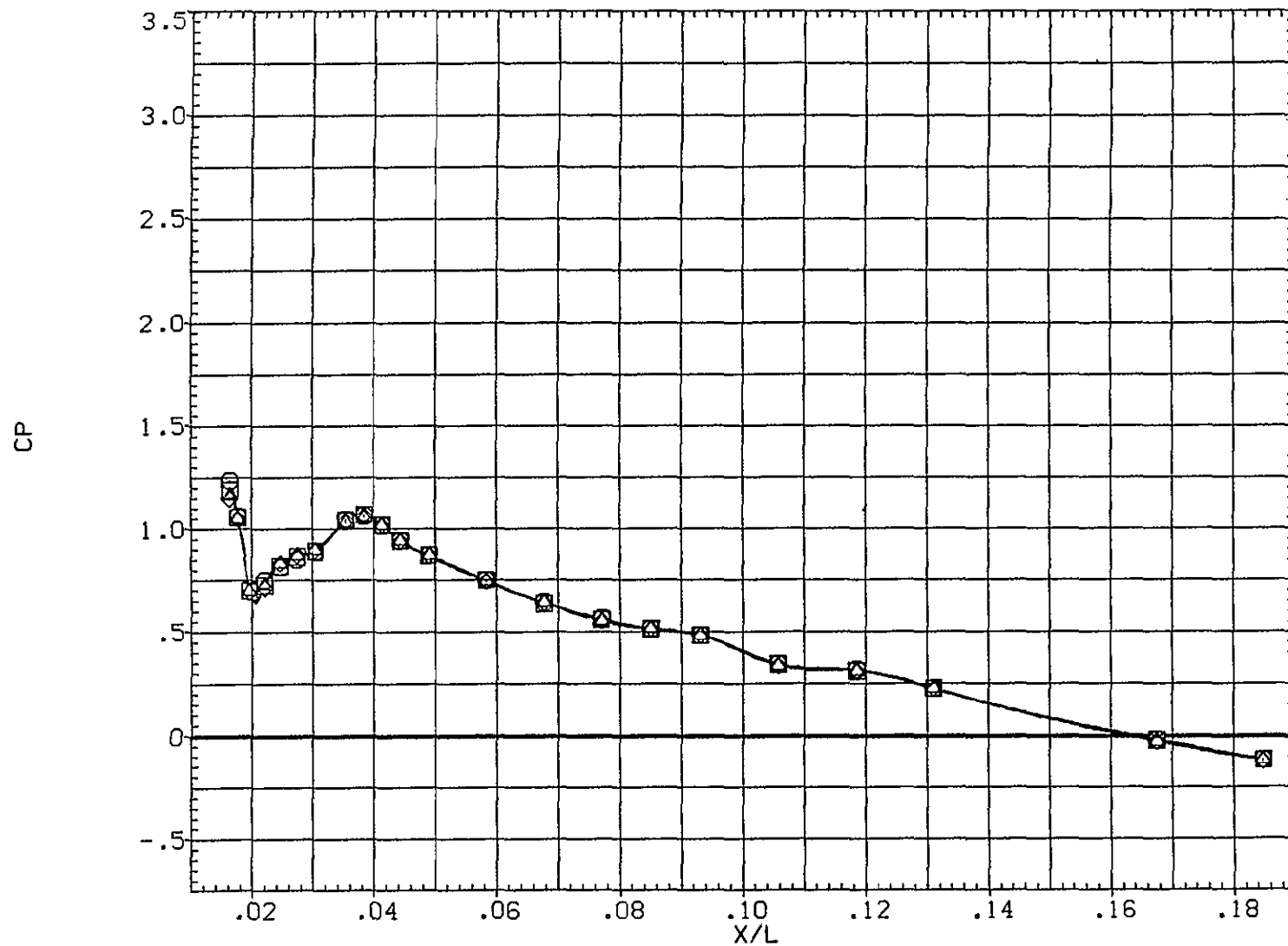
(B1G006)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000 PHI	.000
○	.000	-.040	1.203			
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◊	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	202.500	-.040	1.203			
□	225.000					
◇	247.500					
△	270.000					



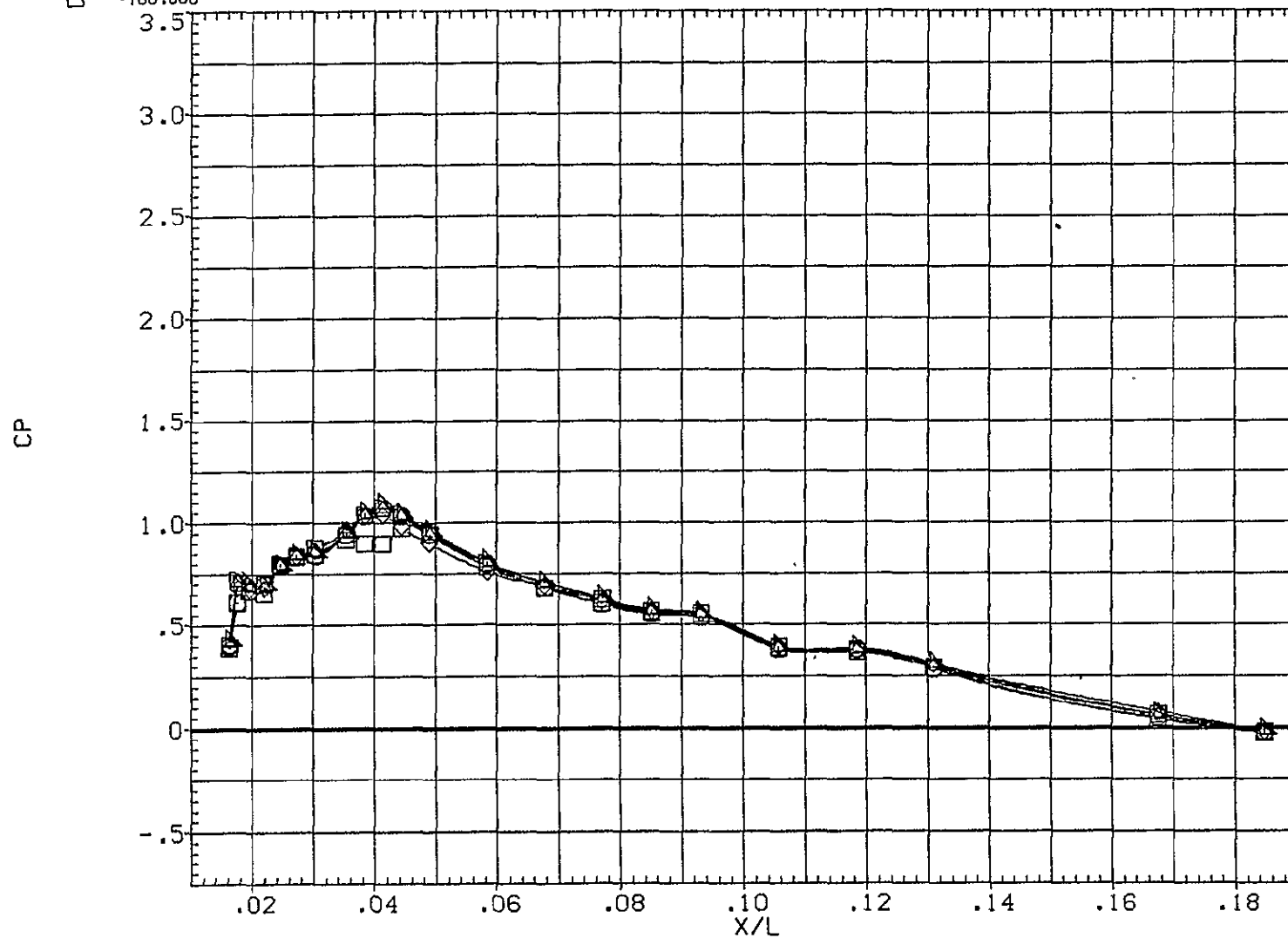
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

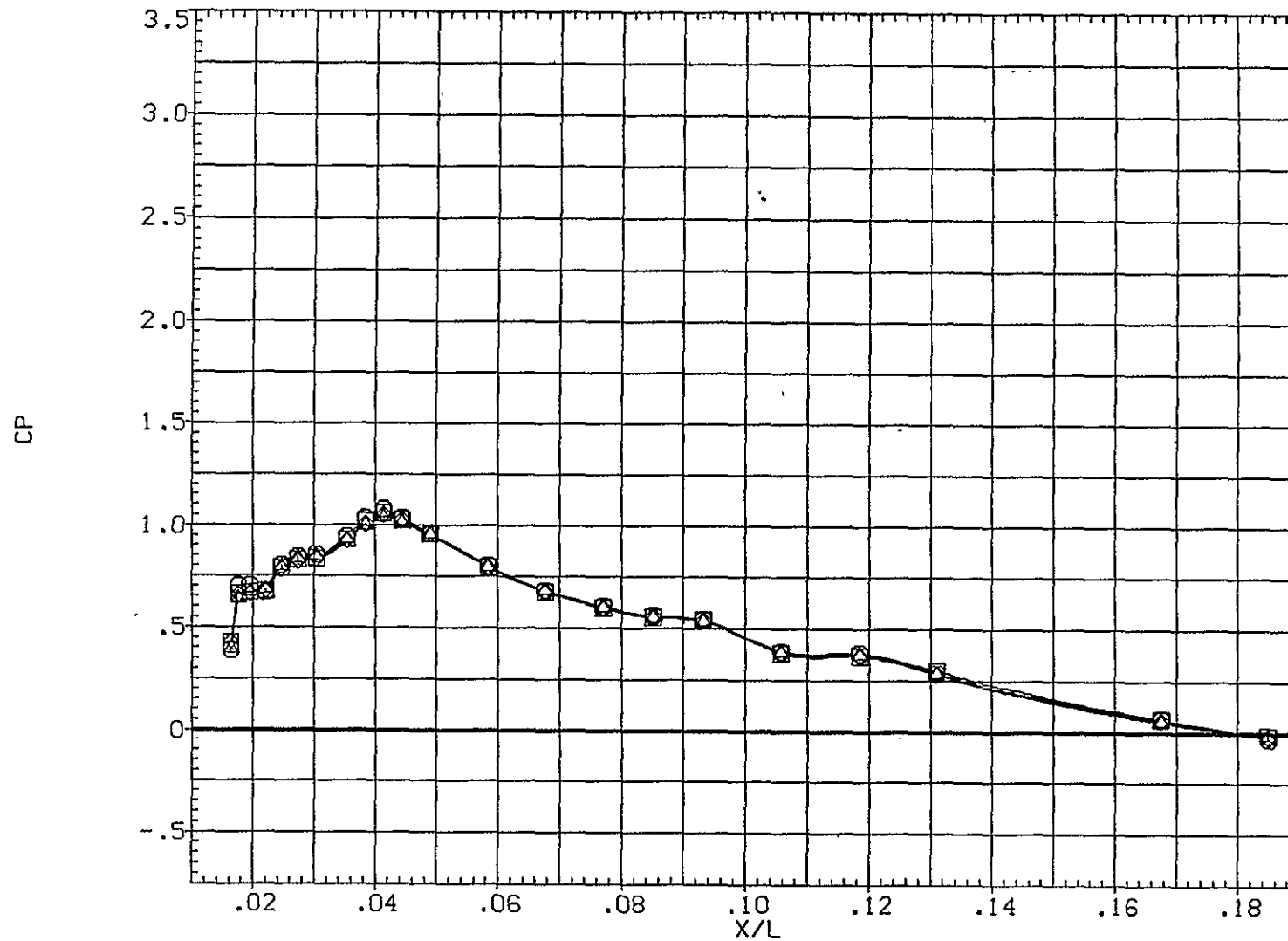
(B1G006)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
□	.000	-.040	1.463	.000		.000
△	22.500					
◇	45.000					
▽	67.500					
○	90.000					
×	-180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	-.040	1.463	BETA	.000	PHI .000
□	225.000					
◇	247.500					
△	270.000					

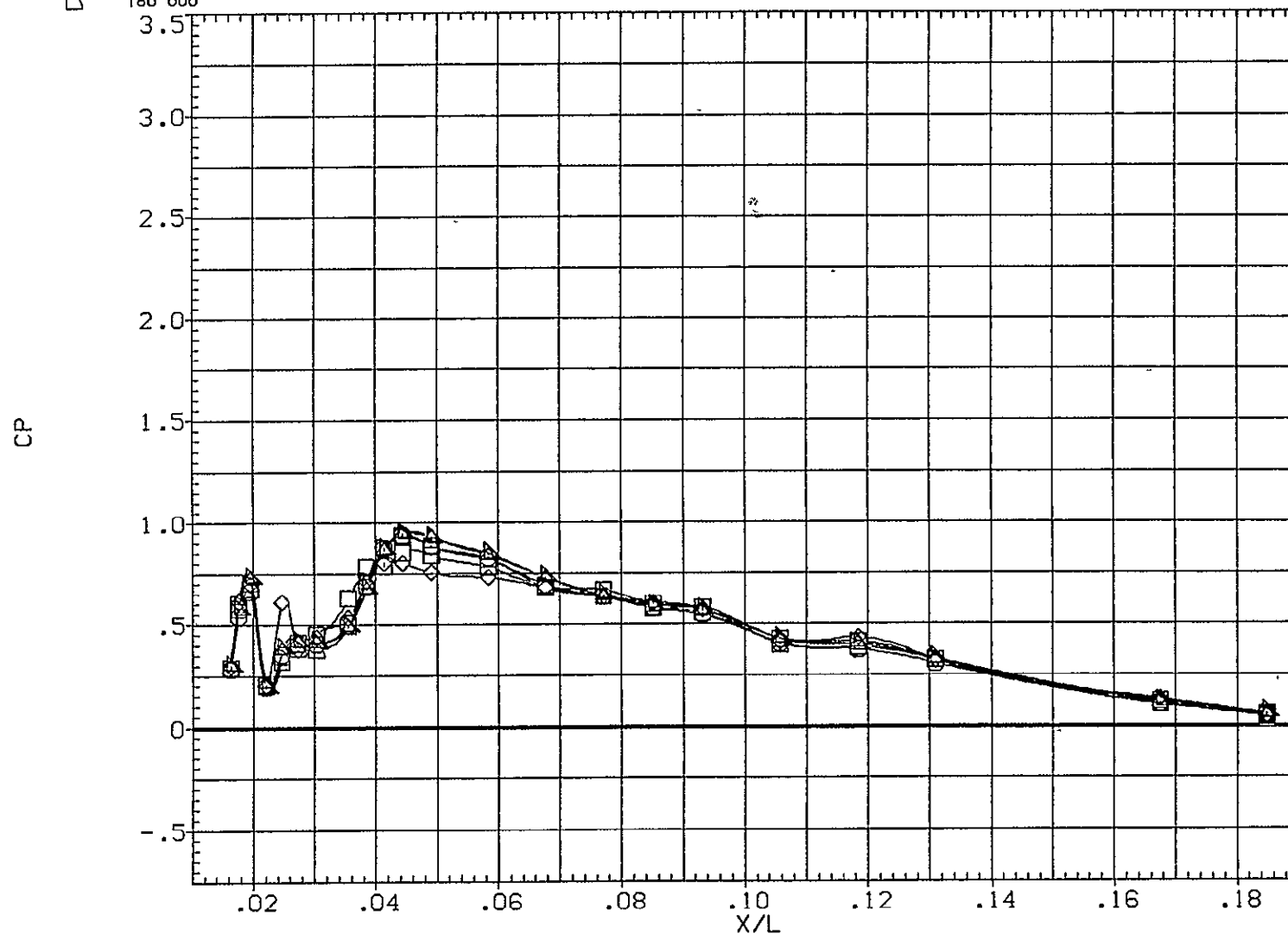


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G006)

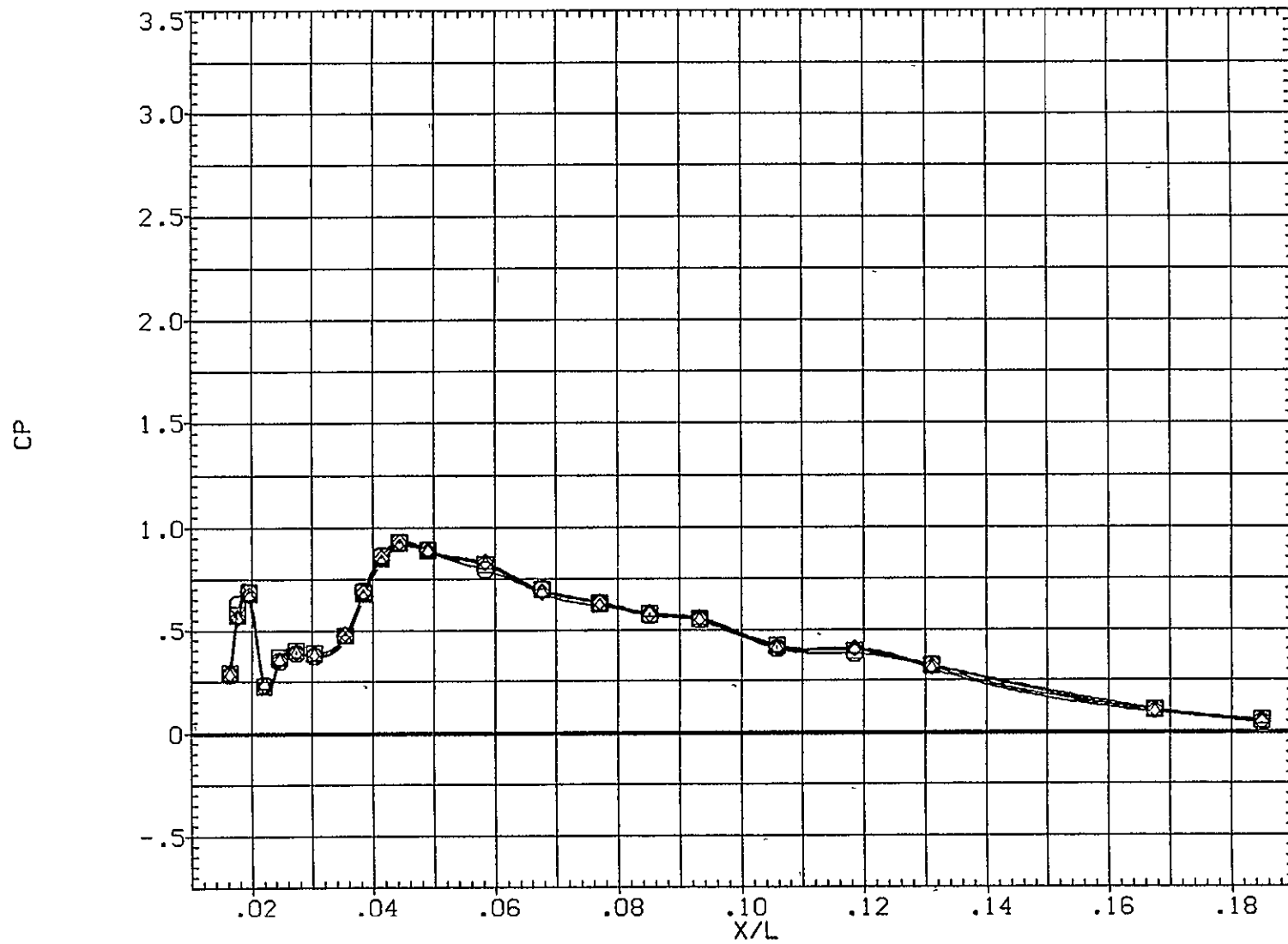
SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	-.040	1.957	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH
○	202.500	-.040	1.957
□	225.000		
◇	247.500		
△	270.000		

PARAMETRIC VALUES		
BETA	PHI	
.000	.00	

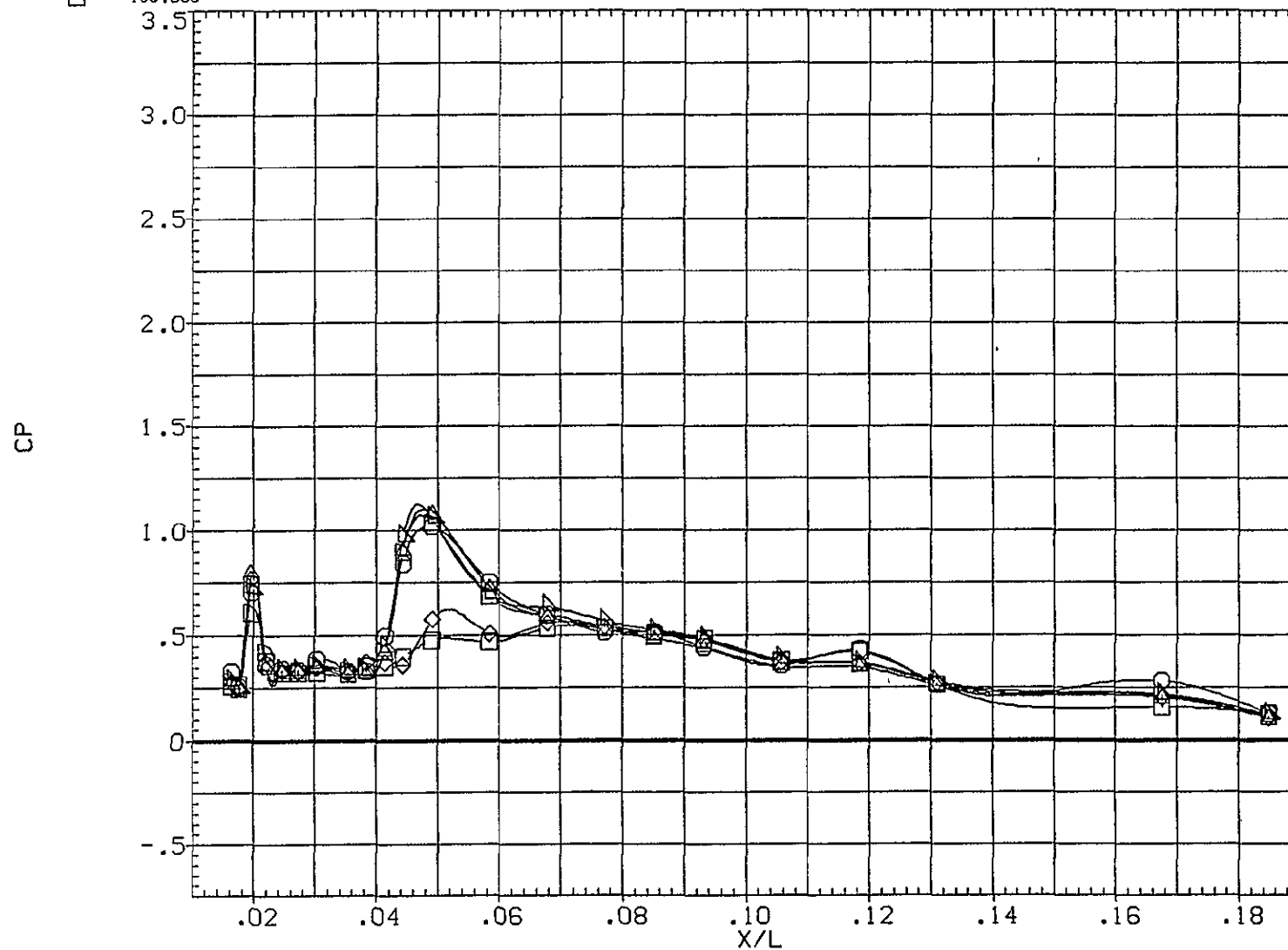


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

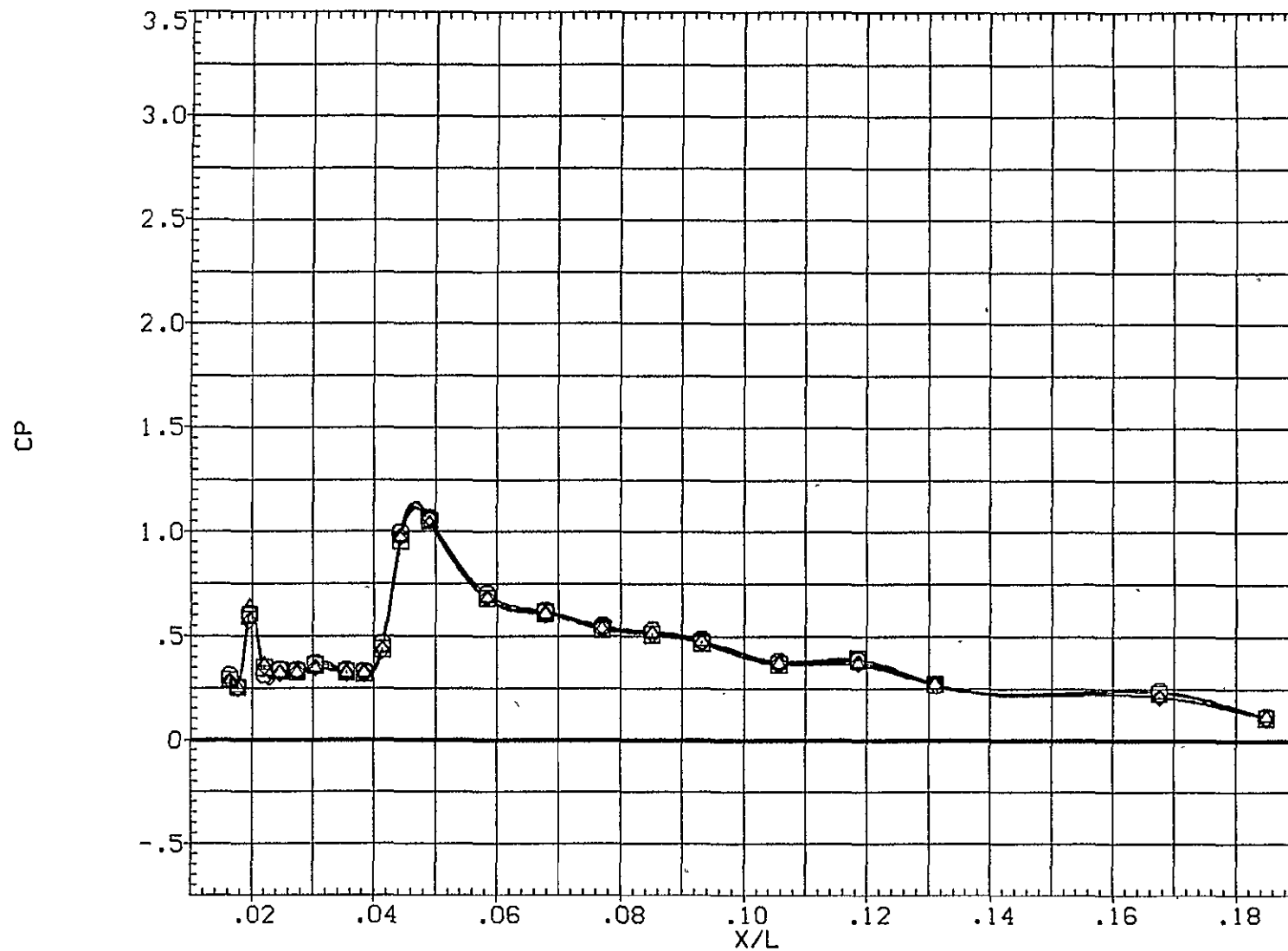
(B1G006)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES		
					PHI		
○	.000	-.040	4.960		.000		.000
□	22.500						
◇	45.000						
△	67.500						
▽	90.000						
◇	180.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	202.500	-.040	4.960	.000	PHI .06
□	225.000				
◇	247.500				
△	270.000				

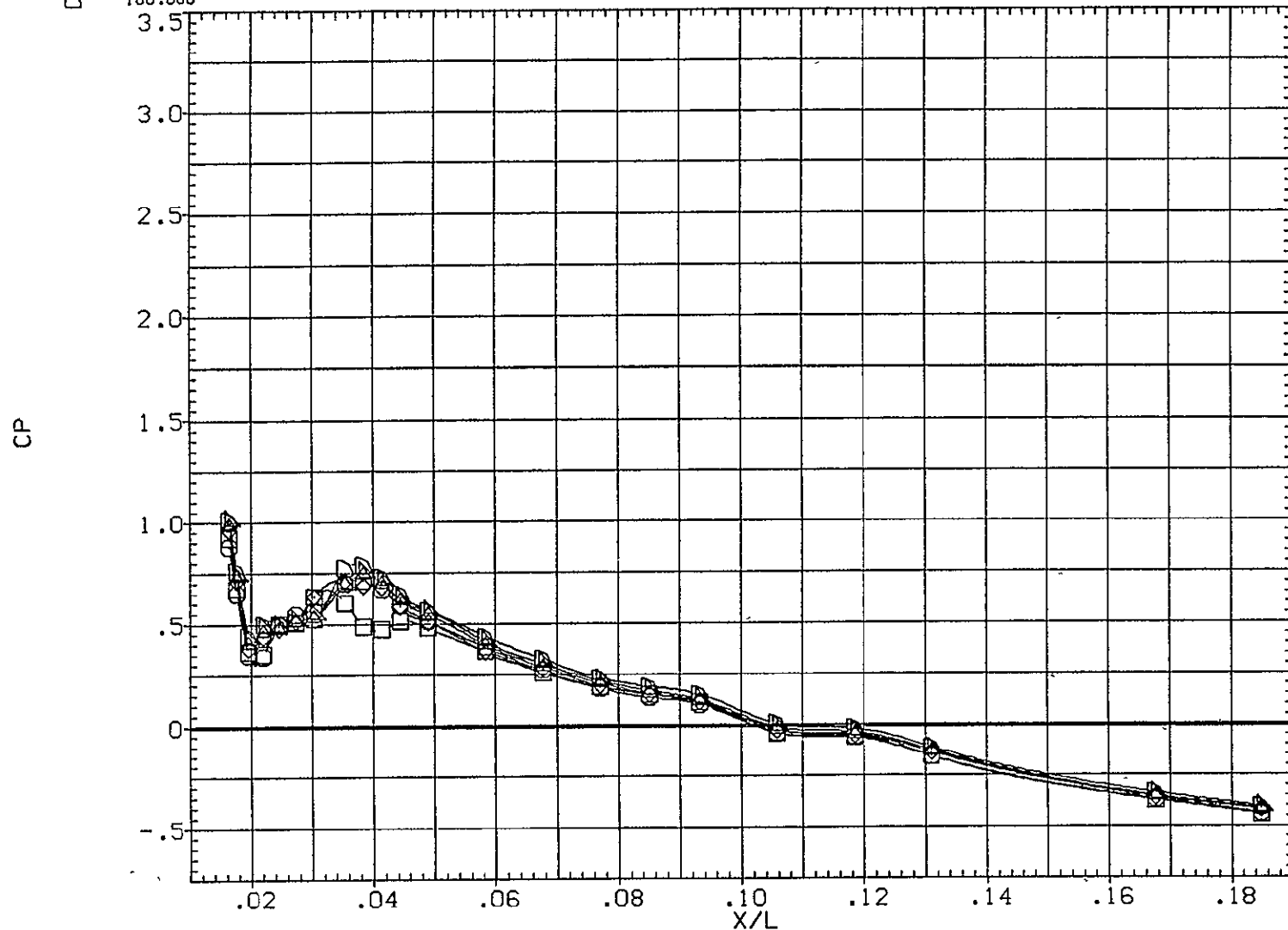


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

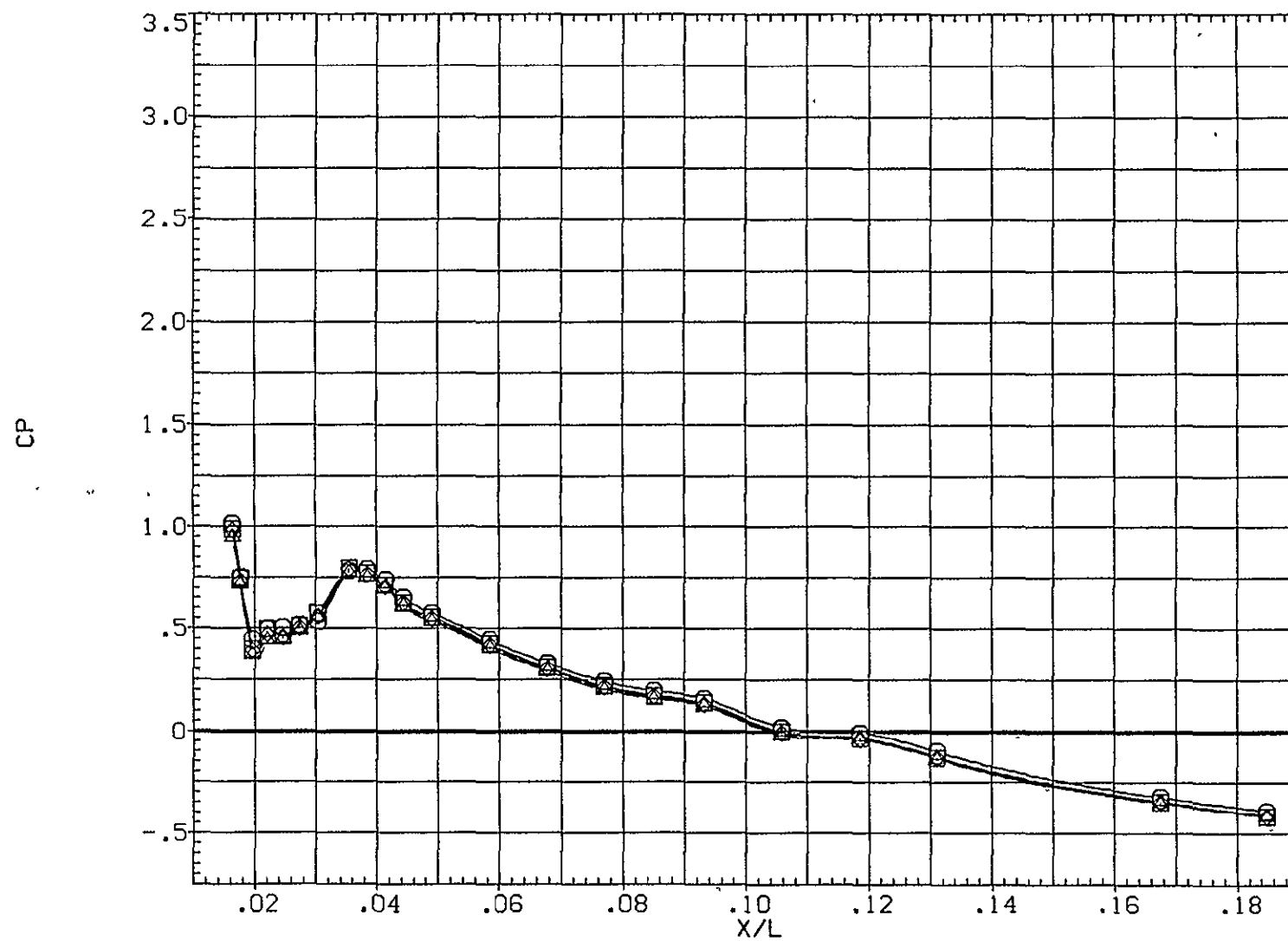
(B1G007)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	.000	.980	.599	BETA	.000	PHI
□	22.500					.000
◇	45.000					
△	67.500					
▽	90.000					
▷	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.000
○	202.500	.980	.599				
□	225.000						
◇	247.500						
△	270.000						



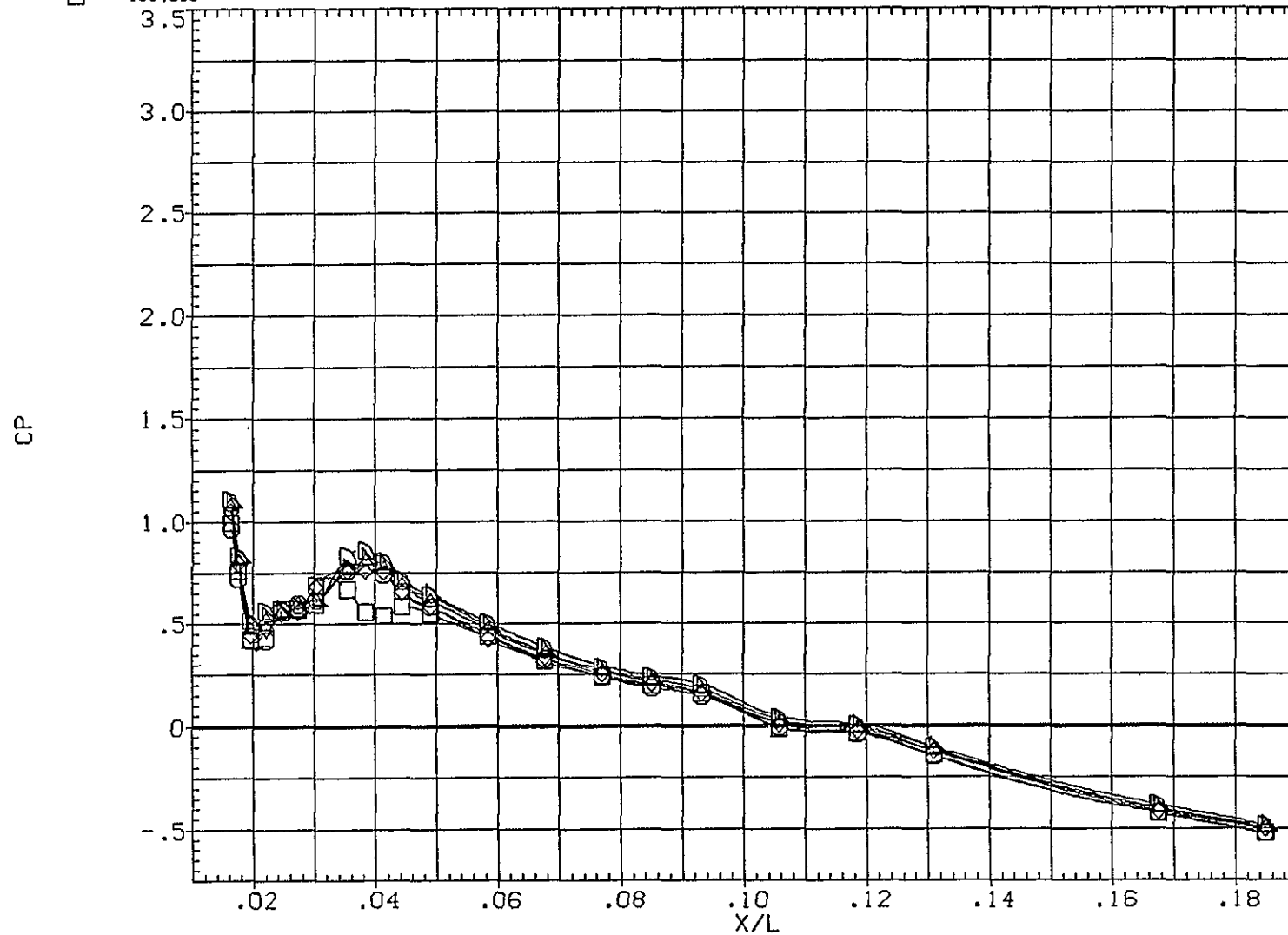
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

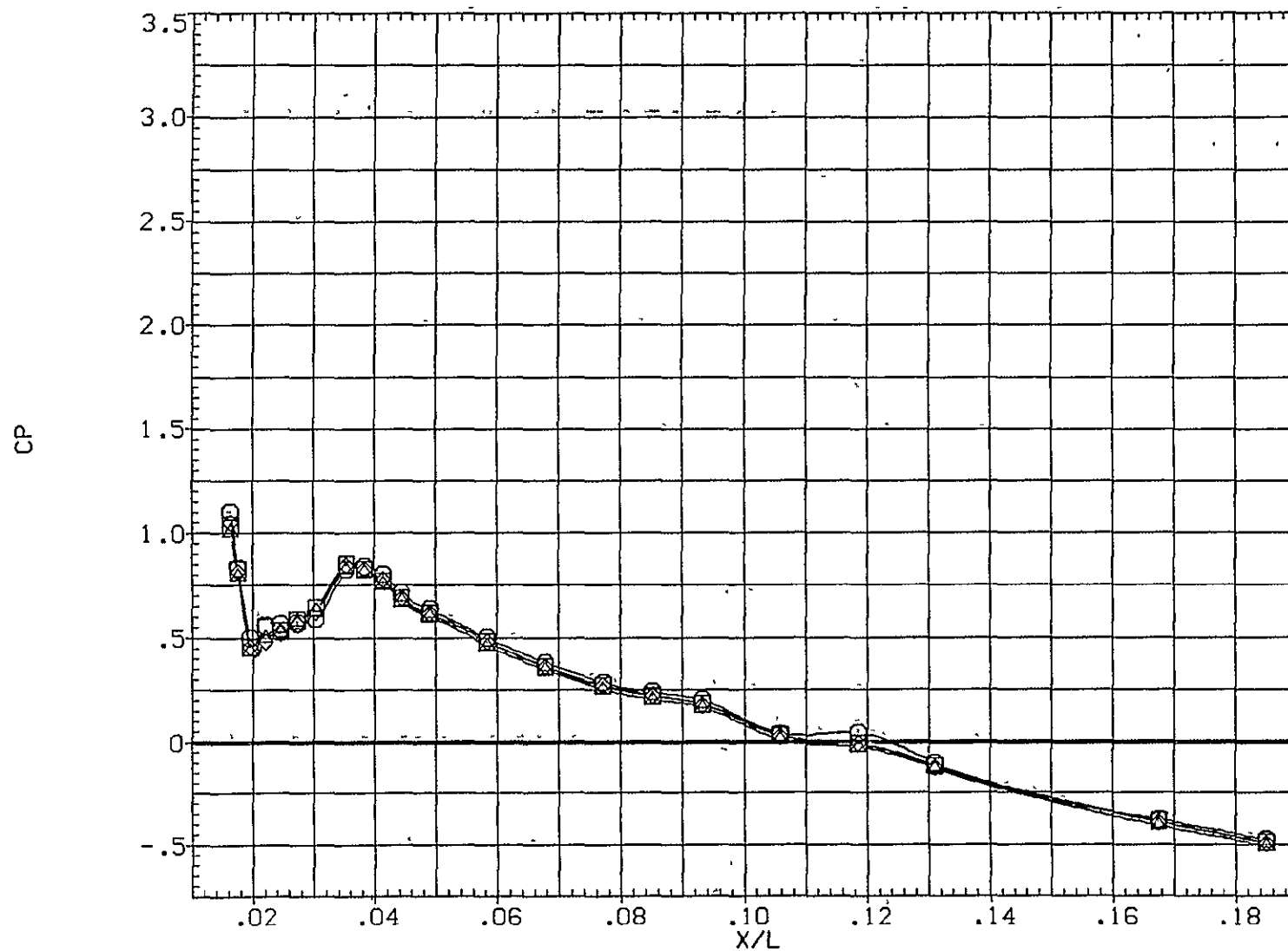
(B1G007)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	000	.980	.801	.000		.000
◇	22.500					
□	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES		
○	202.500	.980	.801		.000	PHI	.0
□	225.000						
◇	247.500						
△	270.000						

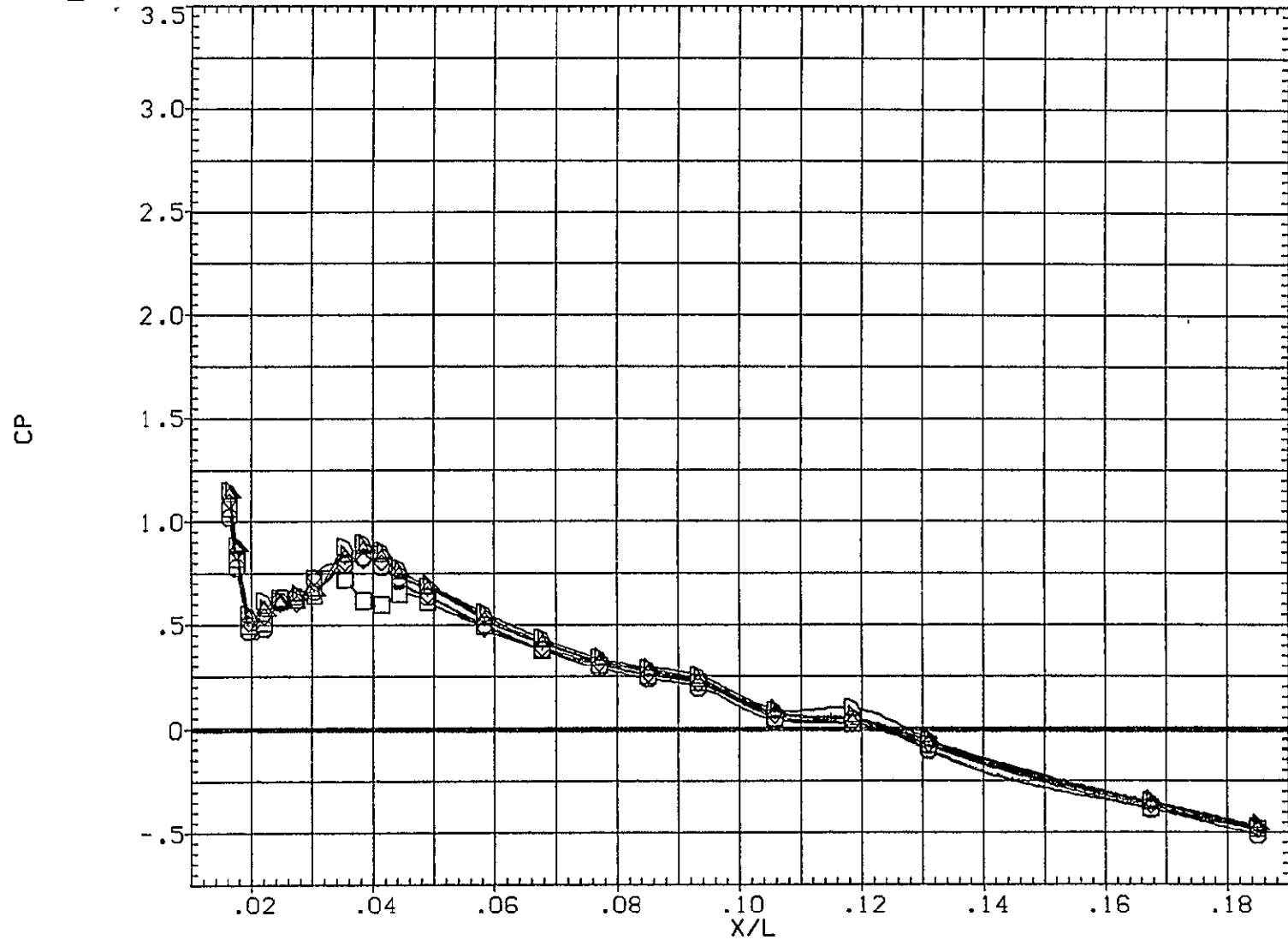


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

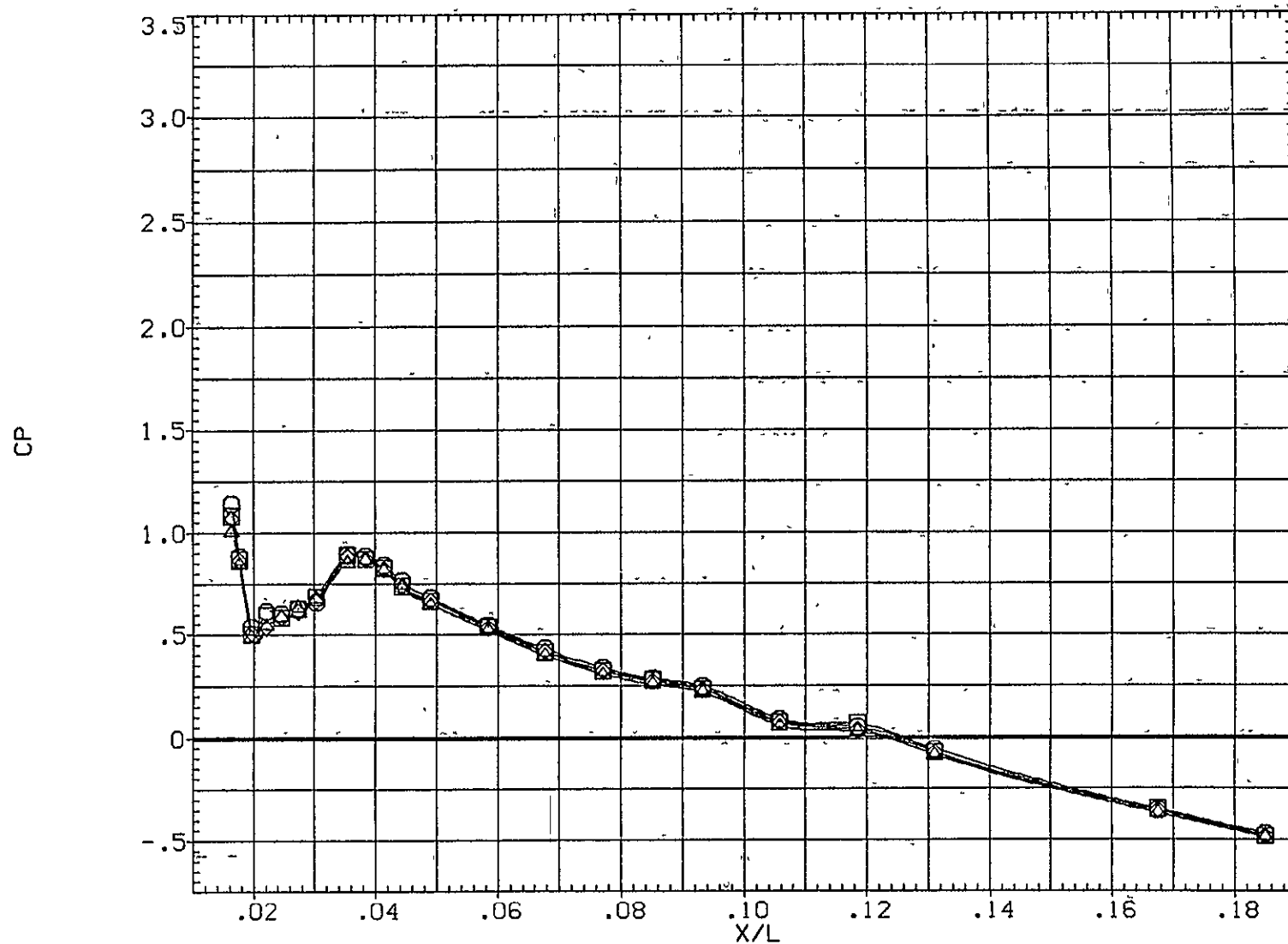
(B1G007)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	.980	.900			
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
▷	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	$\phi$
○	202.500	.980	.900			
□	225.000					
◇	247.500					
△	270.000					

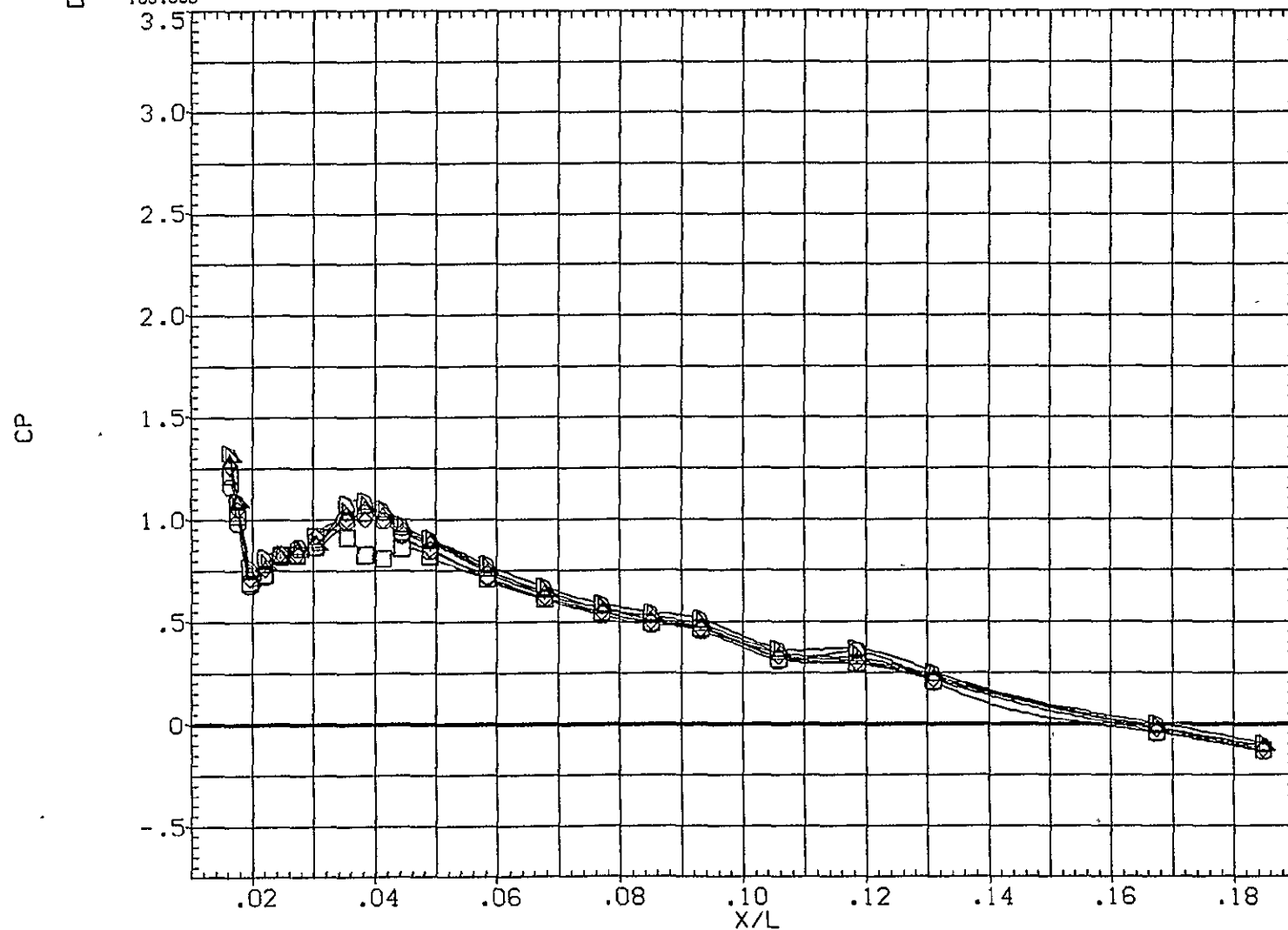


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G007)

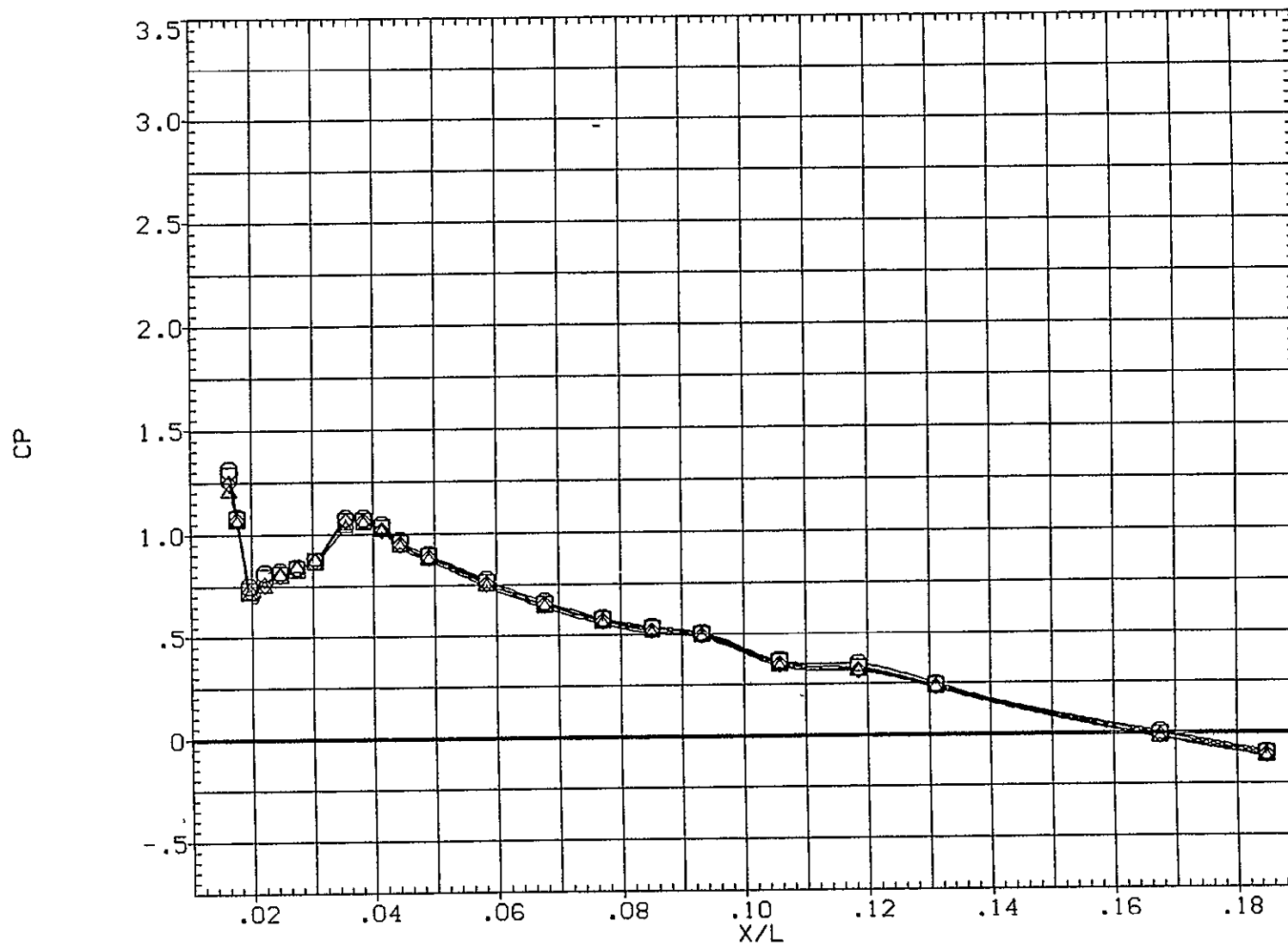
SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES		
○	.000	.980	1.200		.000	PHI	.000
□	22.500						
◇	45.000						
△	67.500						
▽	90.000						
◇	180.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH
○	202.500	.980	1.200
□	225.000		
◇	247.500		
△	270.000		

PARAMETRIC VALUES		
BETA	PHI	
.000		.00

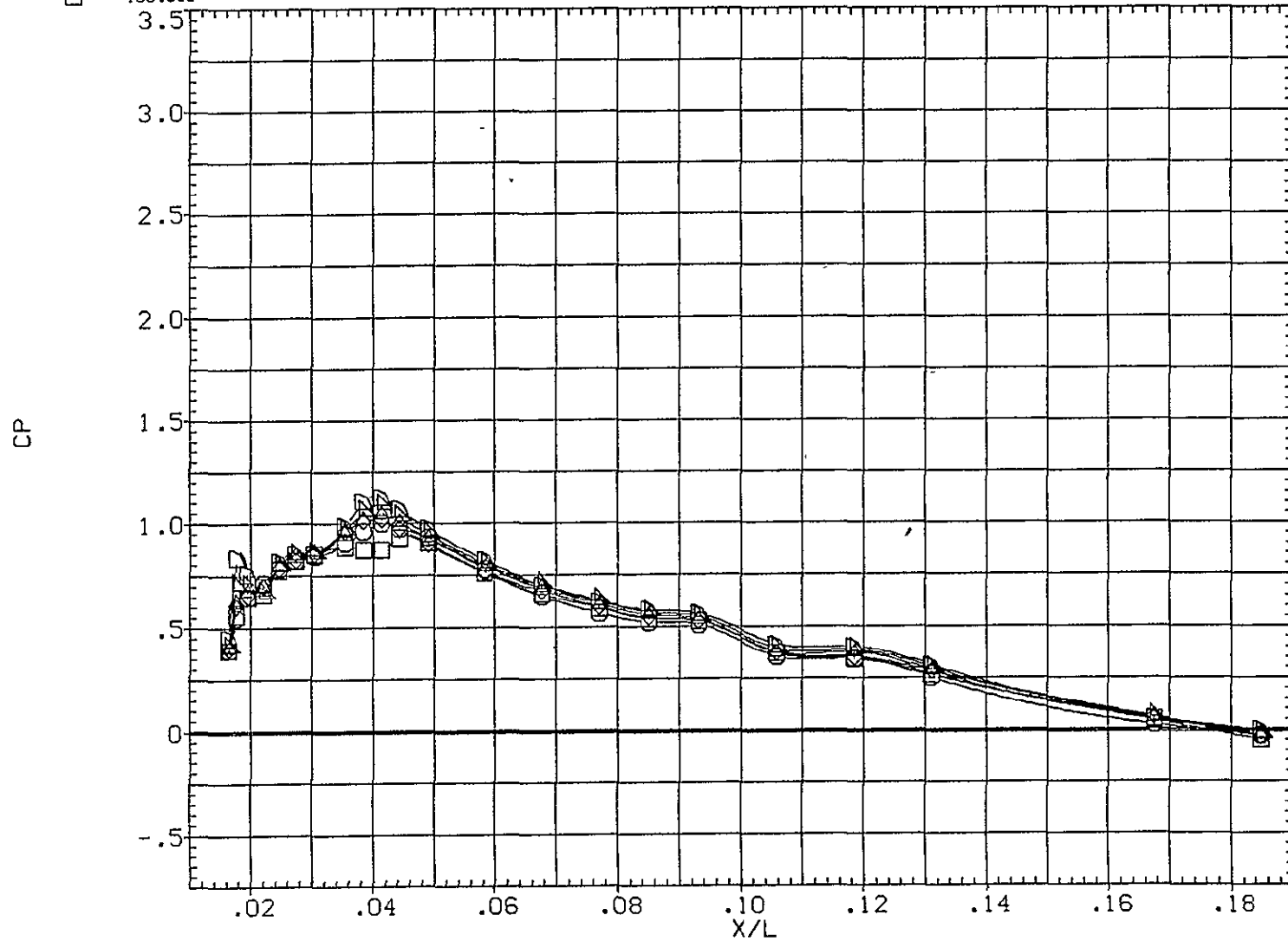


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

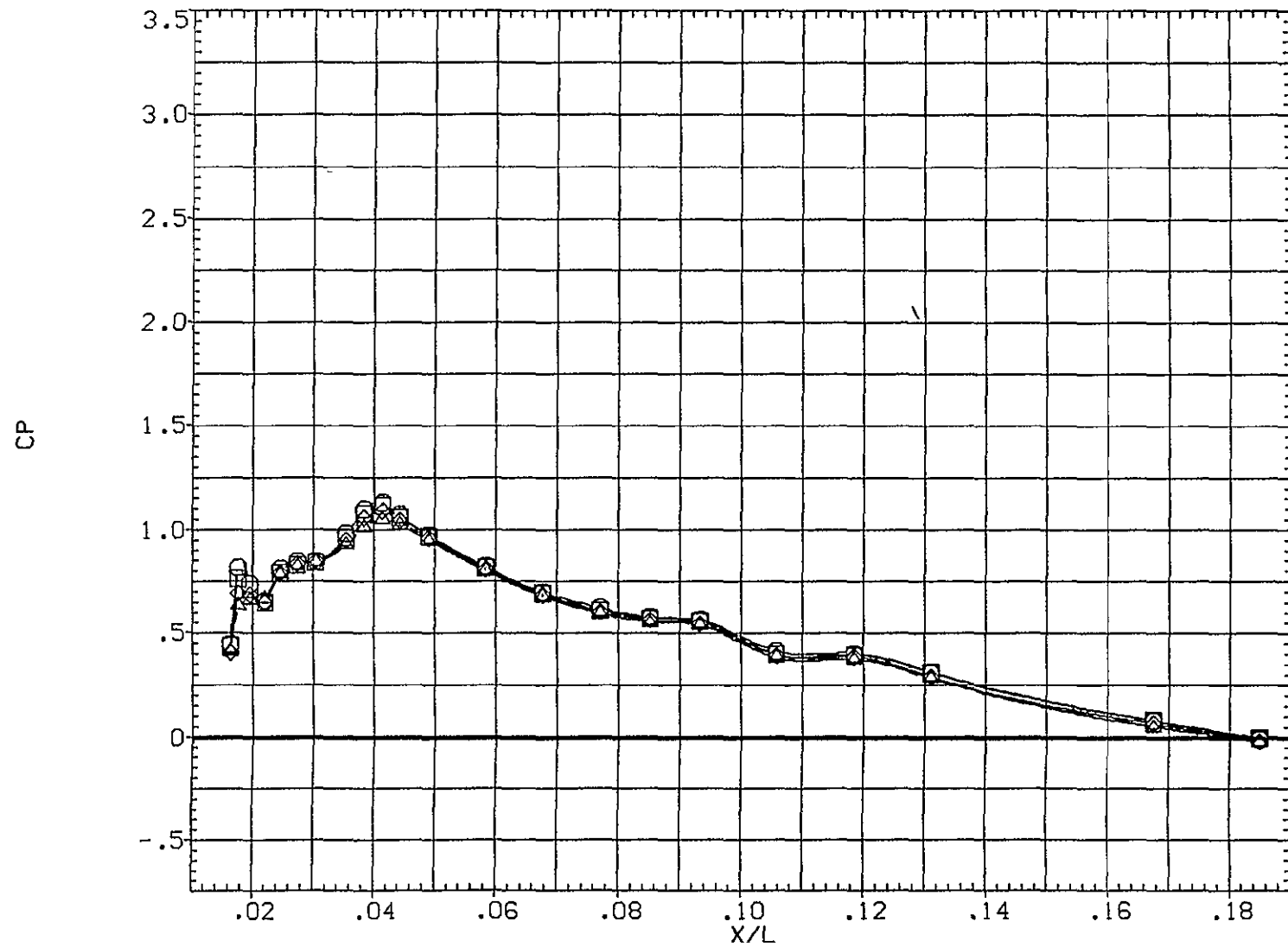
(B1G007)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	.960	1.452	.000		.000
○	22.500					
◇	45.000					
△	67.500					
▽	90.000					
□	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.00
○	202.500	.960	1.452				
□	225.000						
◇	247.500						
△	270.000						



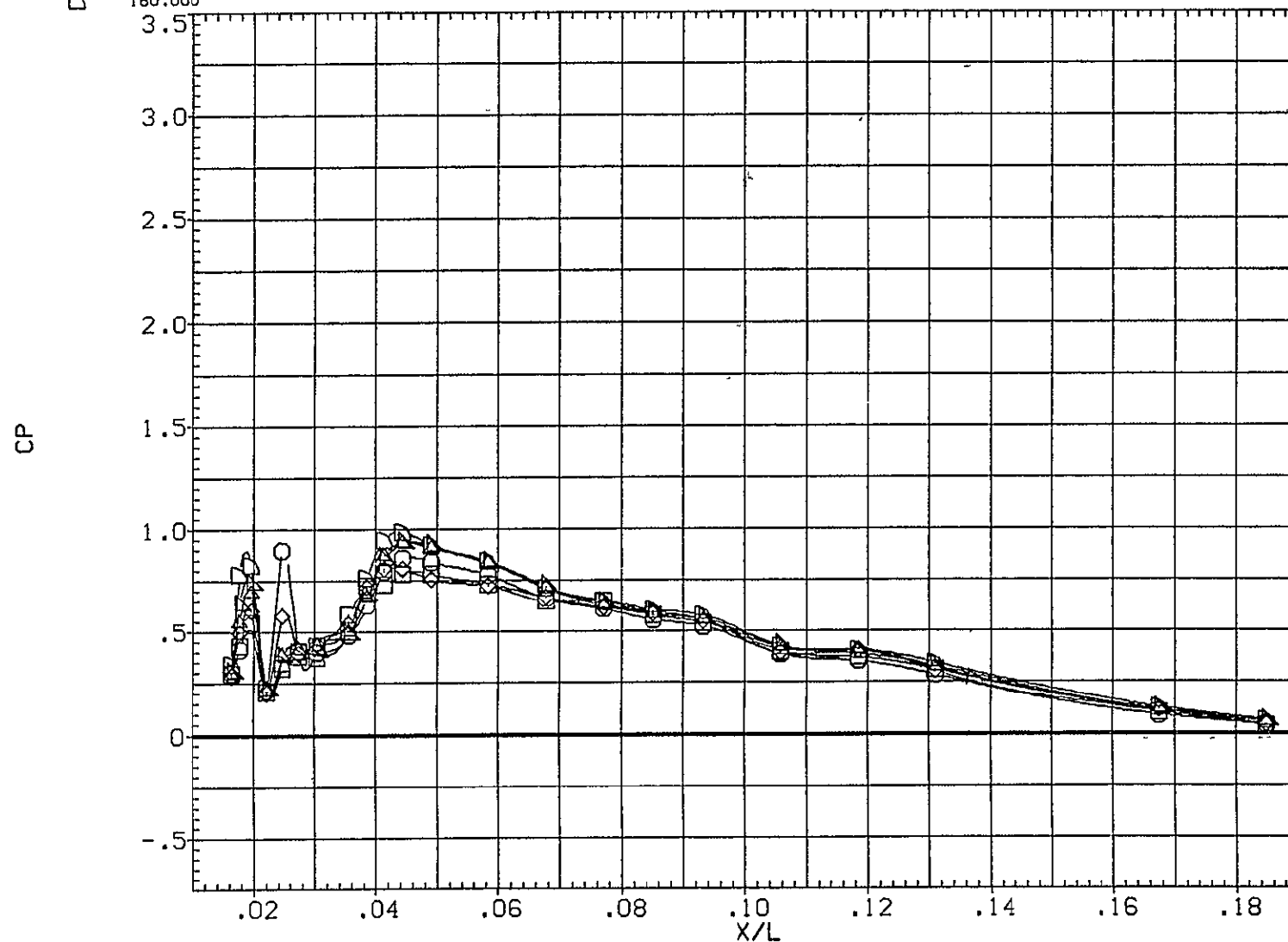
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

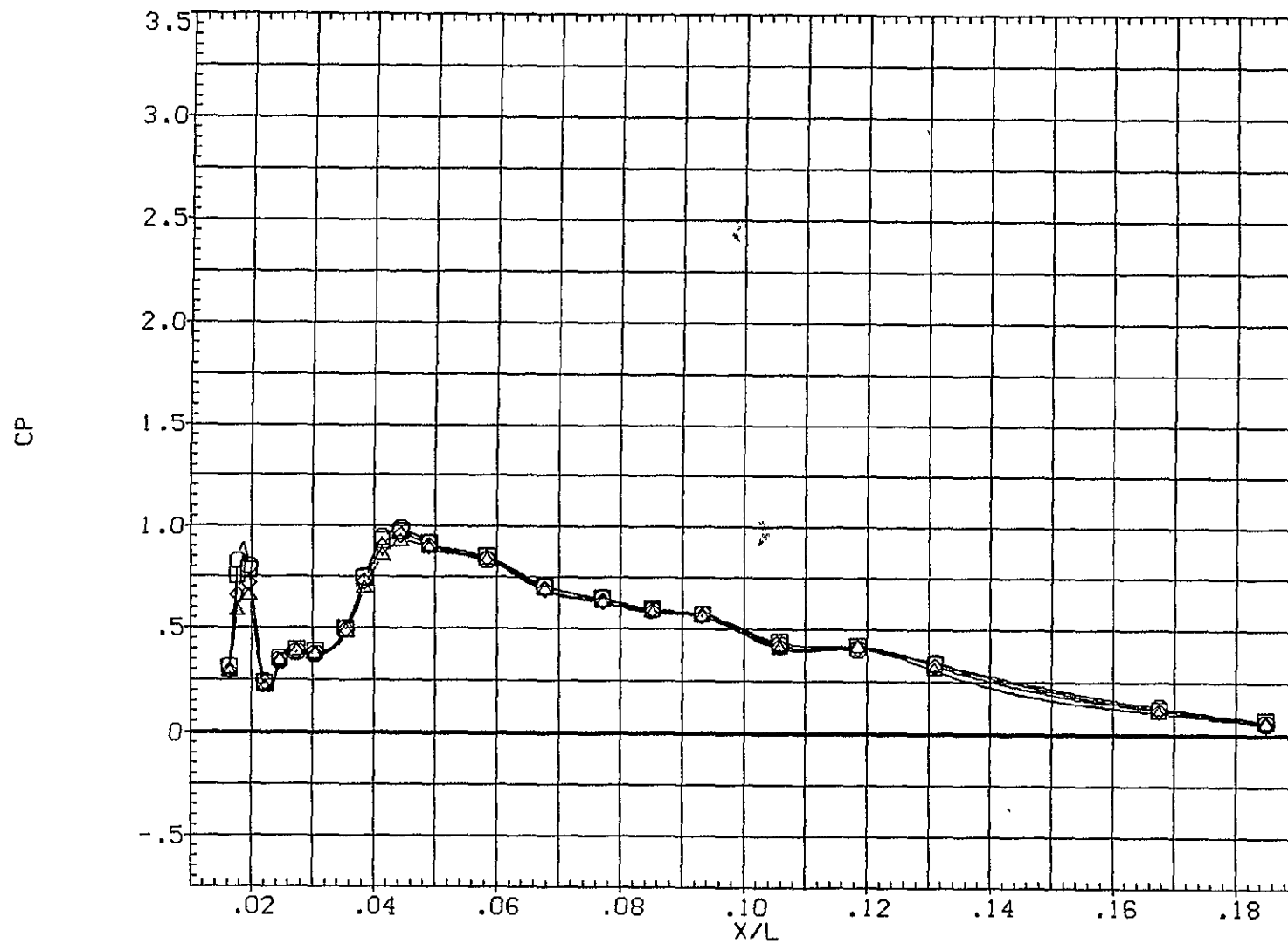
(B1G007)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	.960	1.962	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	.960	1.962				.0°
□	225.000						
◇	247.500						
△	270.000						

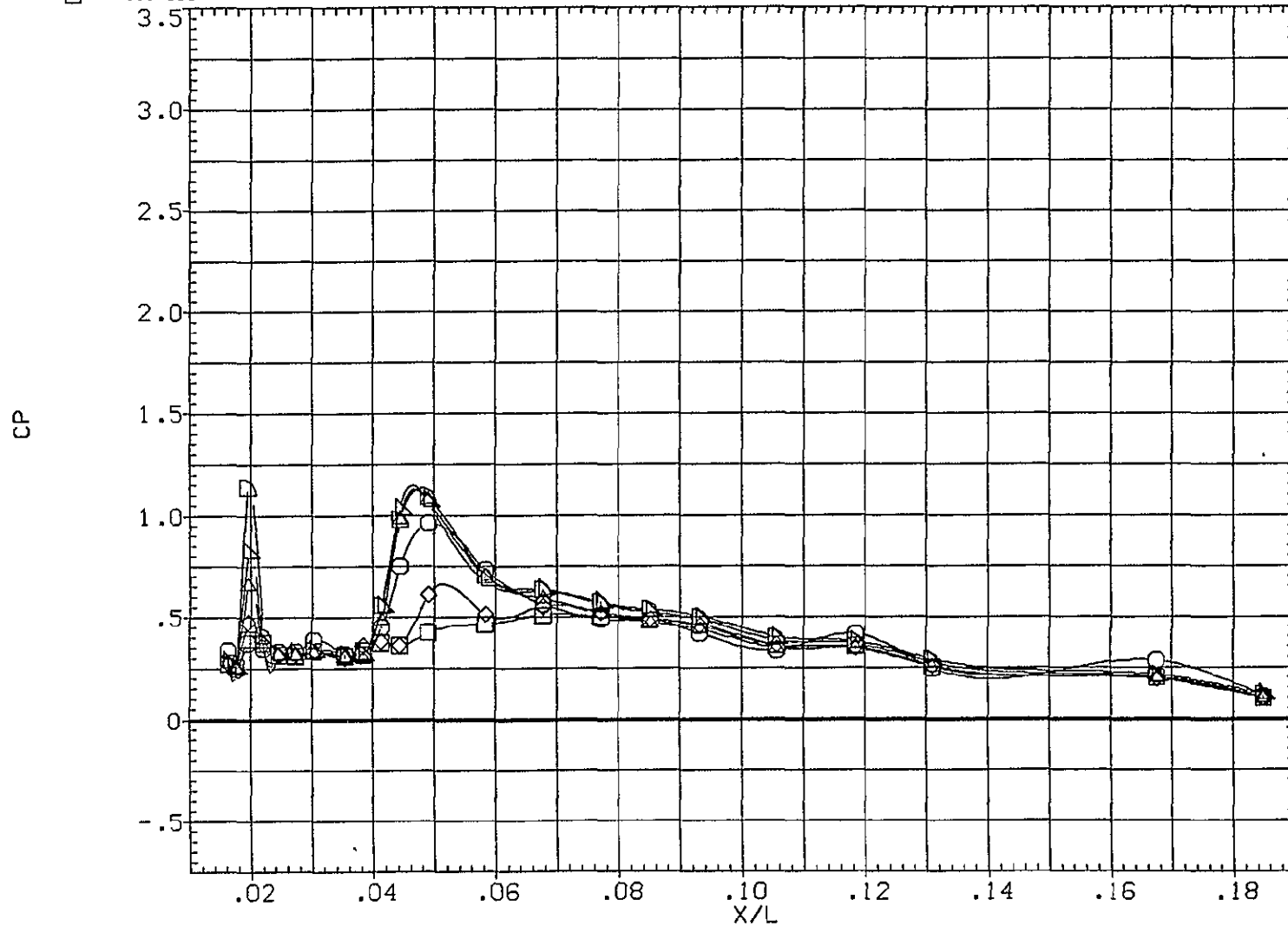


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

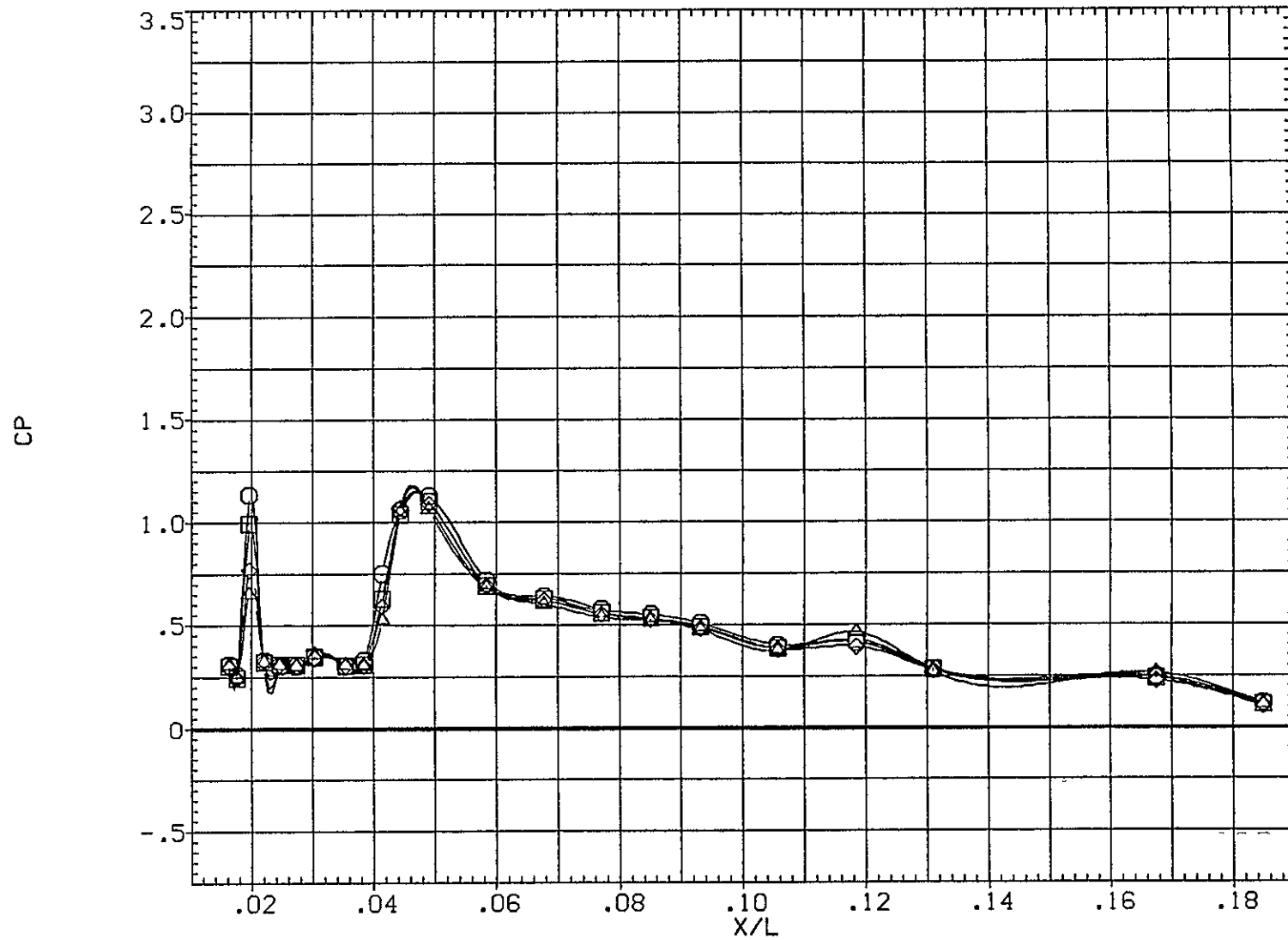
(B1G007)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	.960	4.960	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES	
○	202.500	.960	4.960	BETA	.000 PHI
□	225.000				
◇	247.500				
△	270.000				

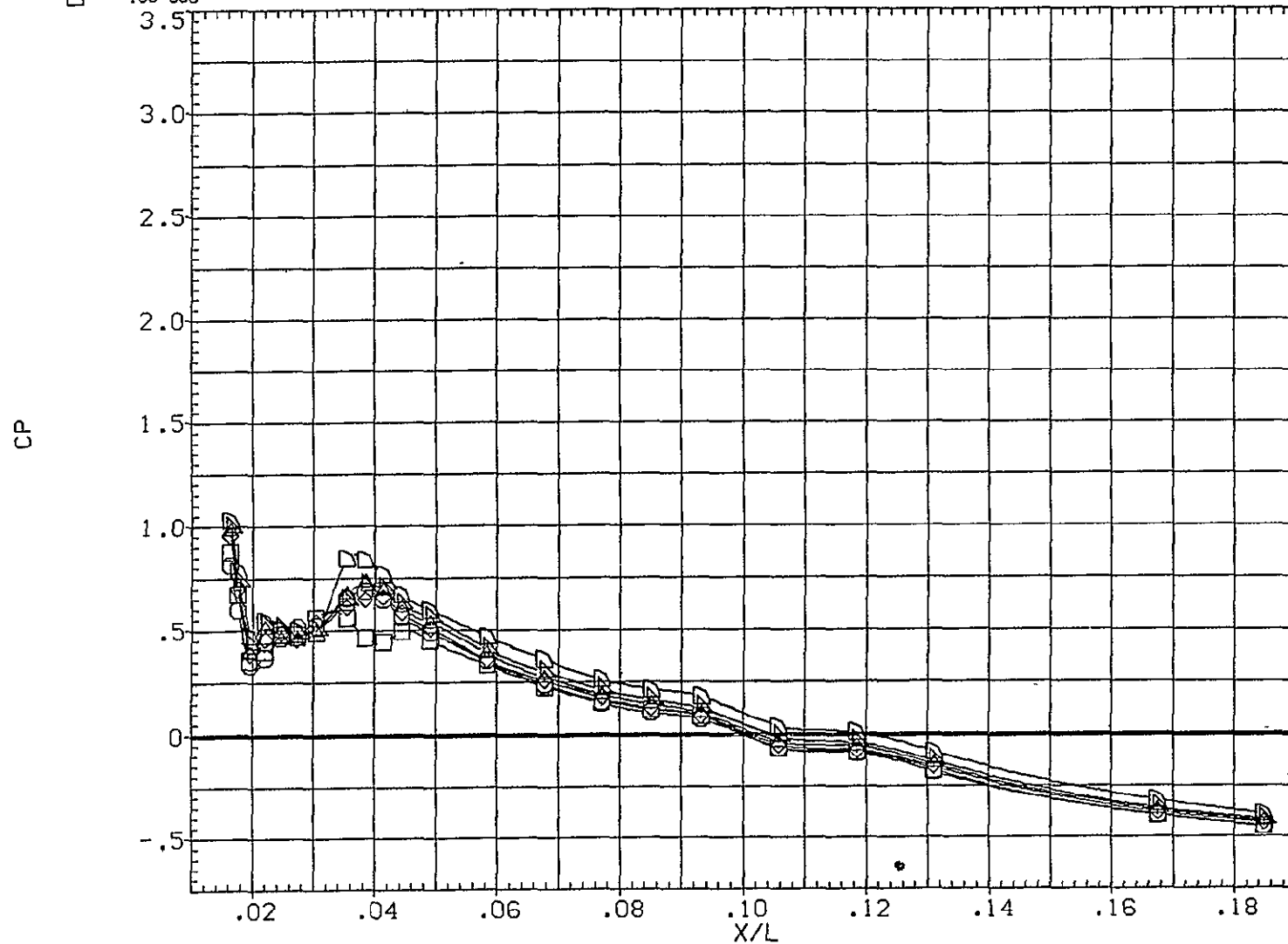


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

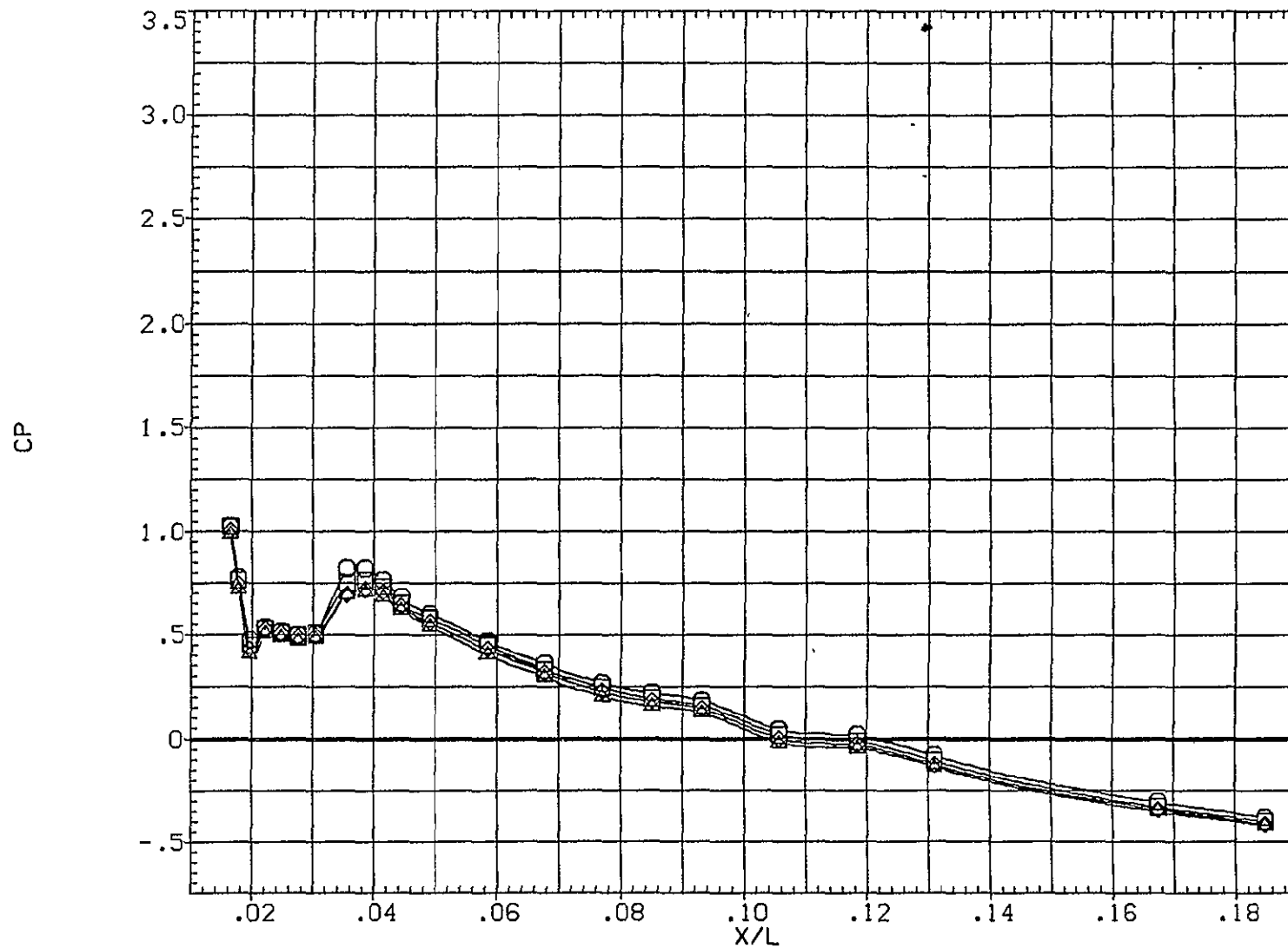
(B1G008)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	1.980	.599	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	1.980	.599	BETA	.000	PHI .001
□	225.000					
◇	247.500					
△	270.000					

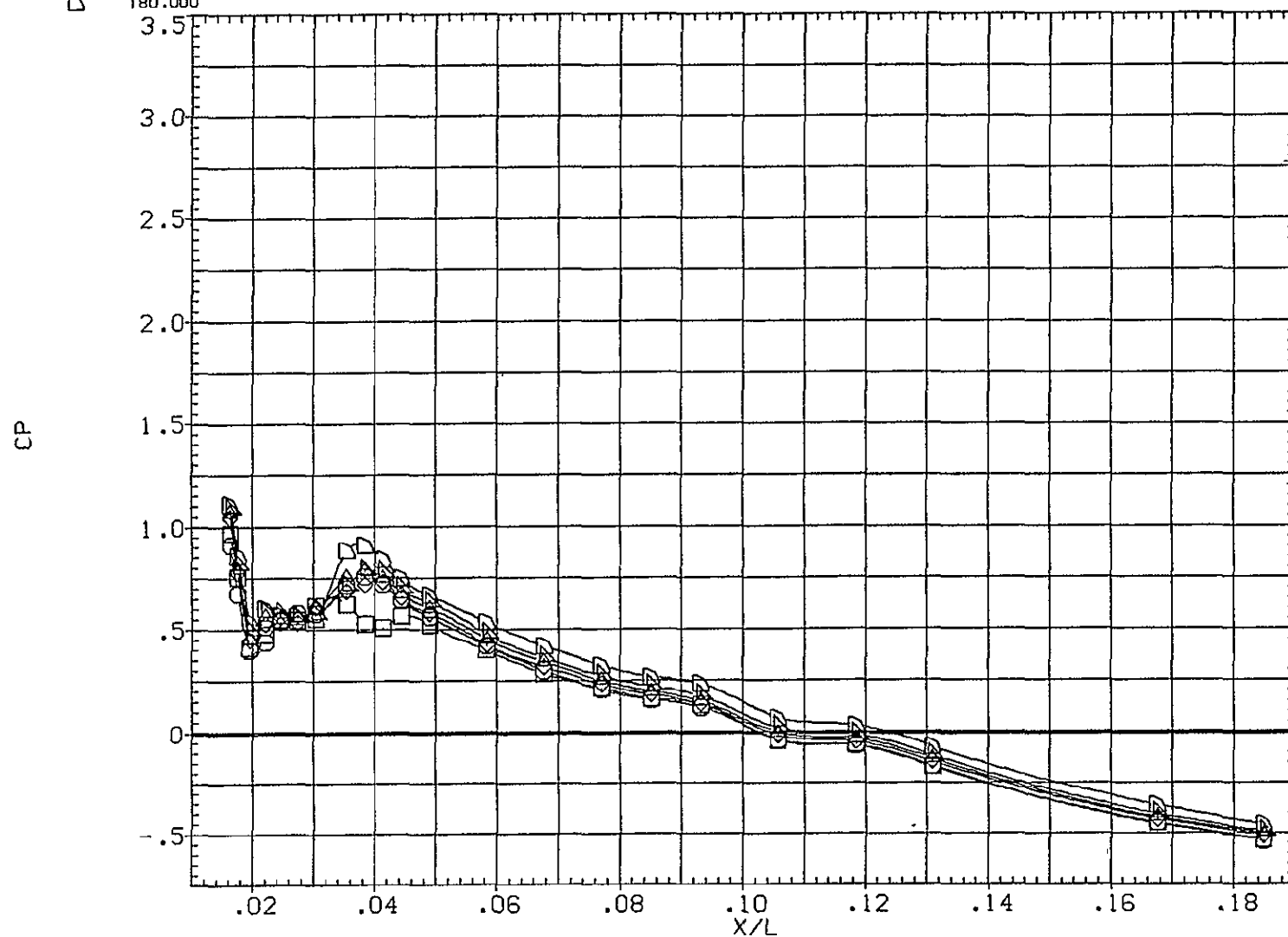


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

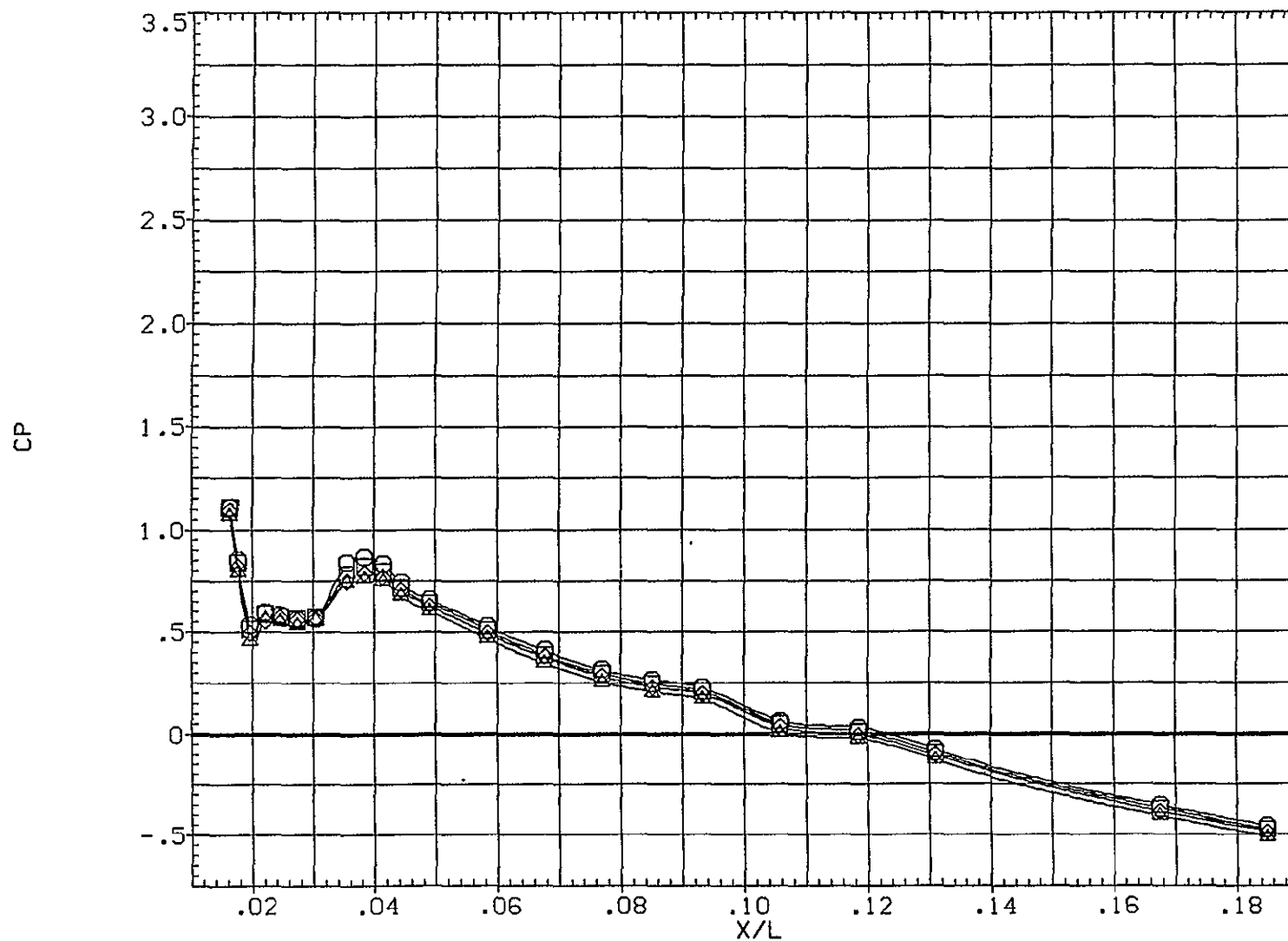
(B1G008)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	1.960	.800	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
▷	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	
○	202.500	1.960	.800		.000	PHI
□	225.000					
◇	247.500					
△	270.000					



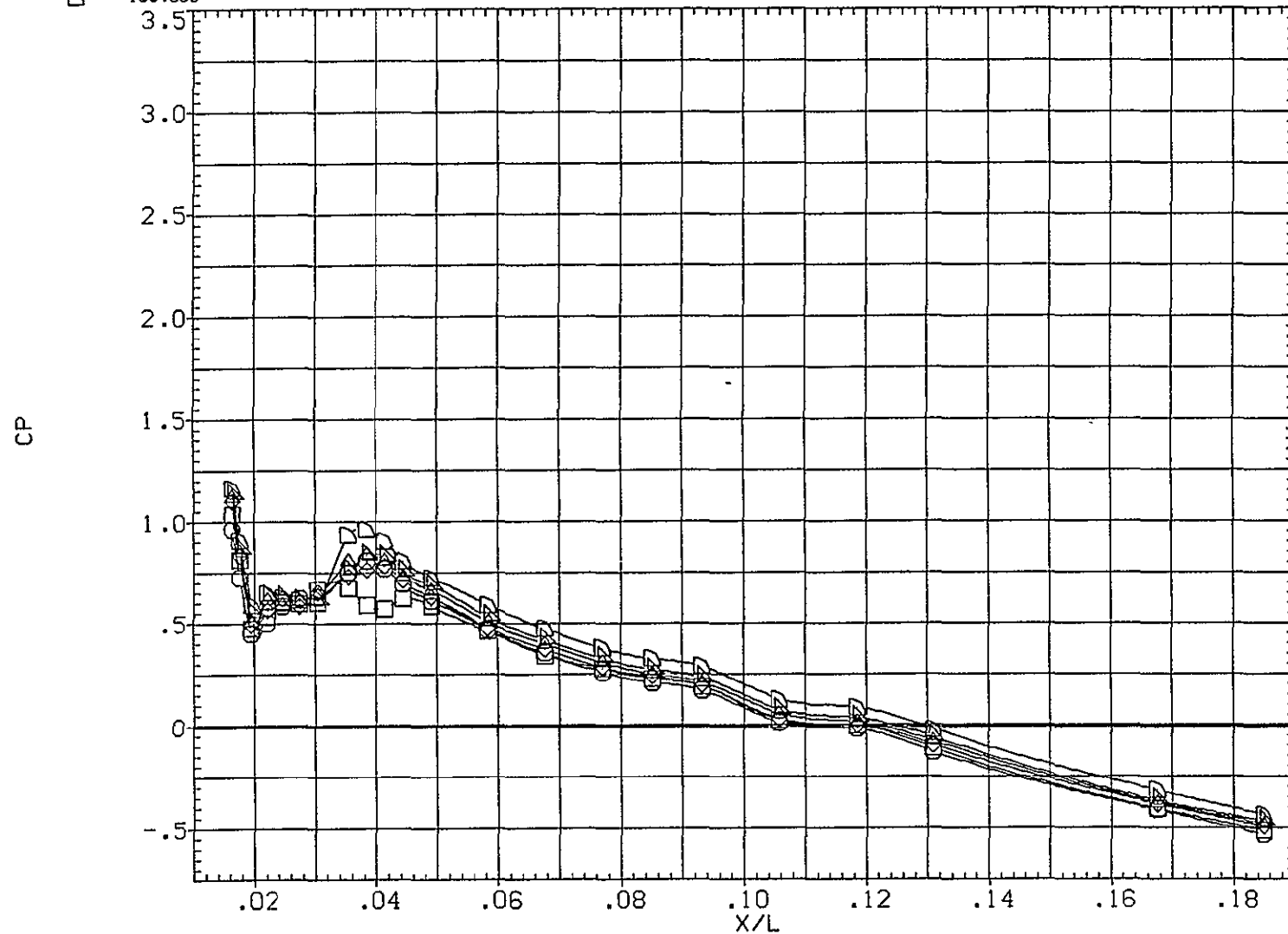
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

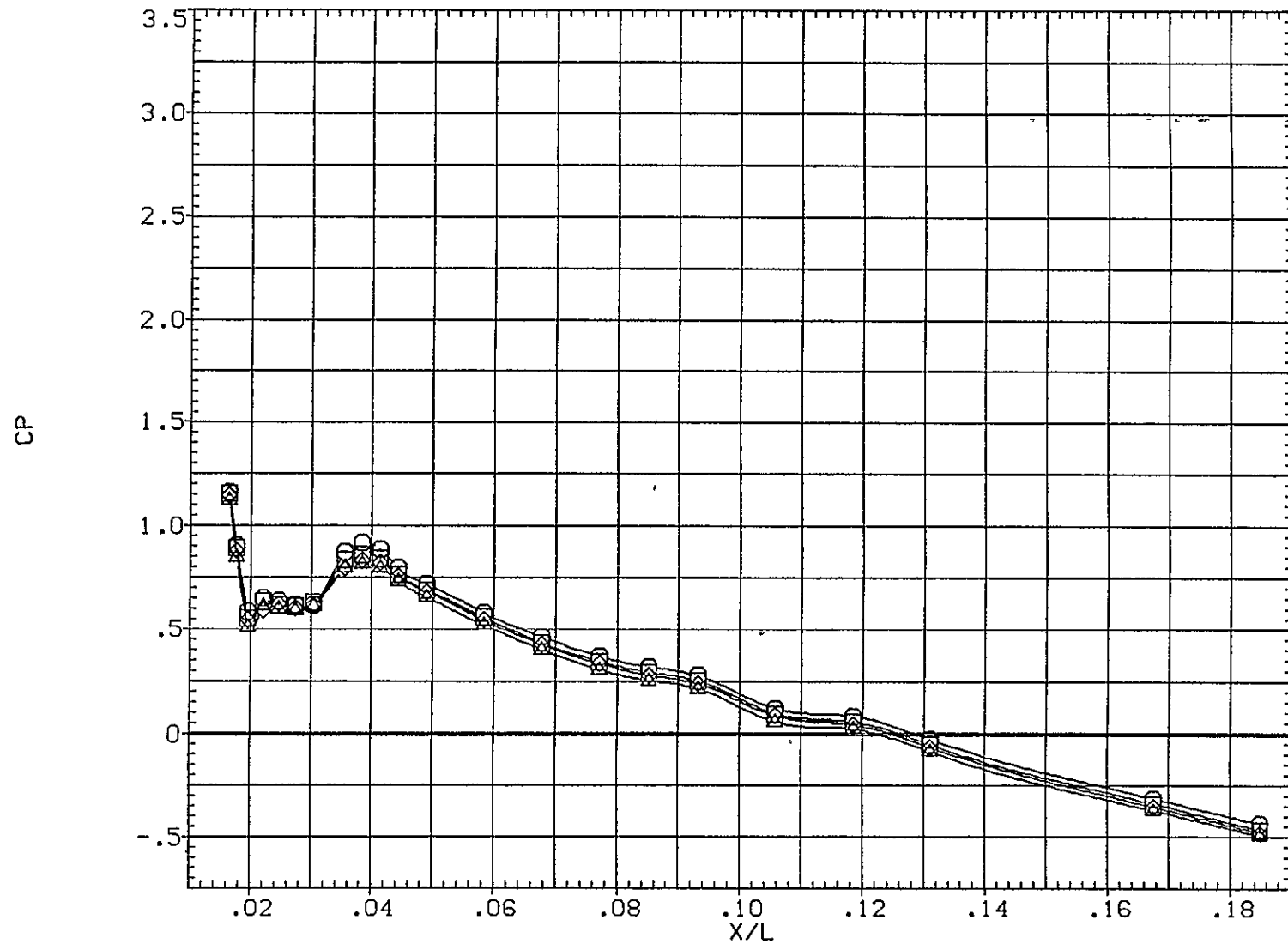
(B1G008)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	1.980	.900	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
▷	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI
○	202.500	1.980	.900			
□	225.000					
◇	247.500					
△	270.000					

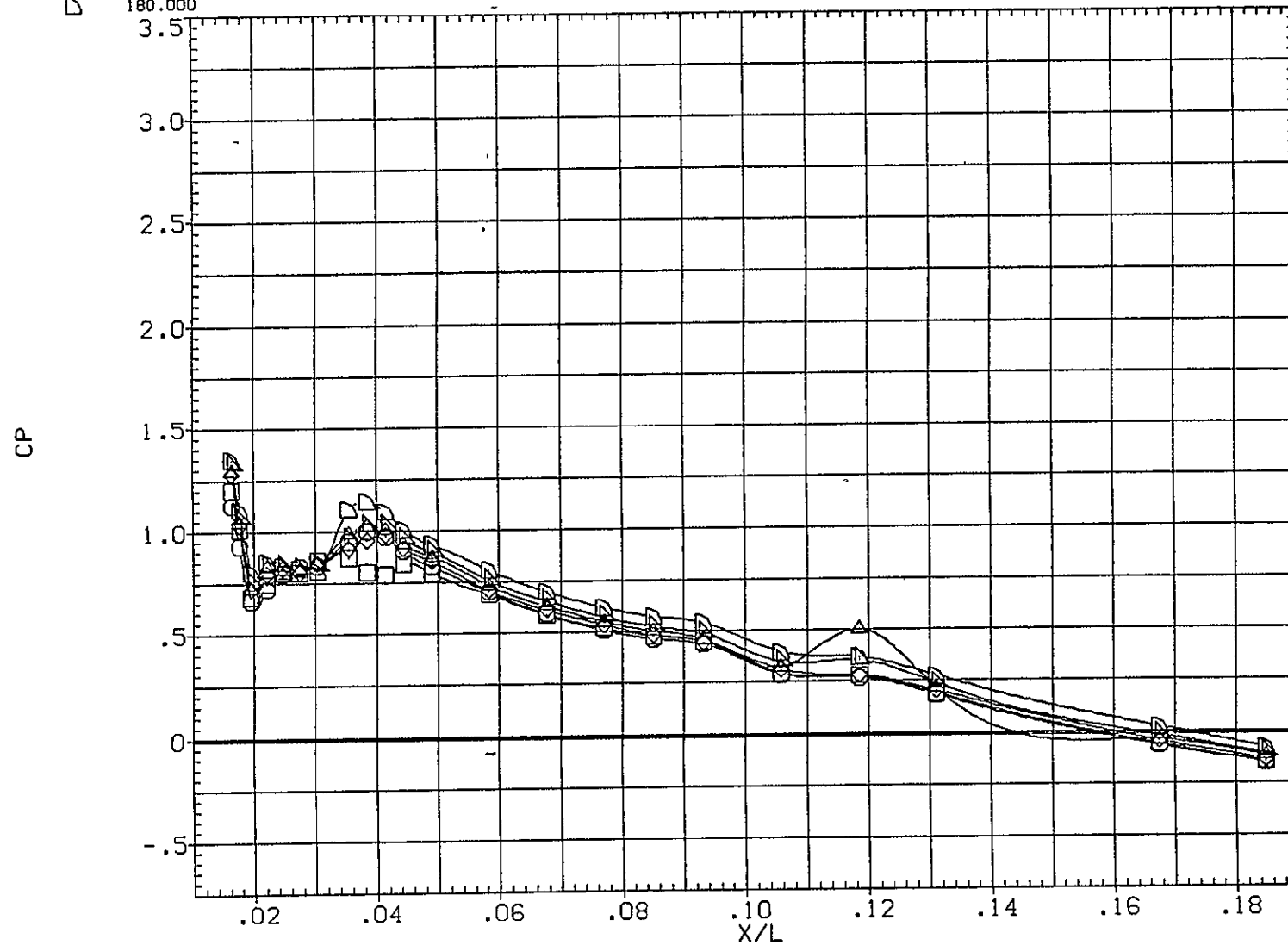


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

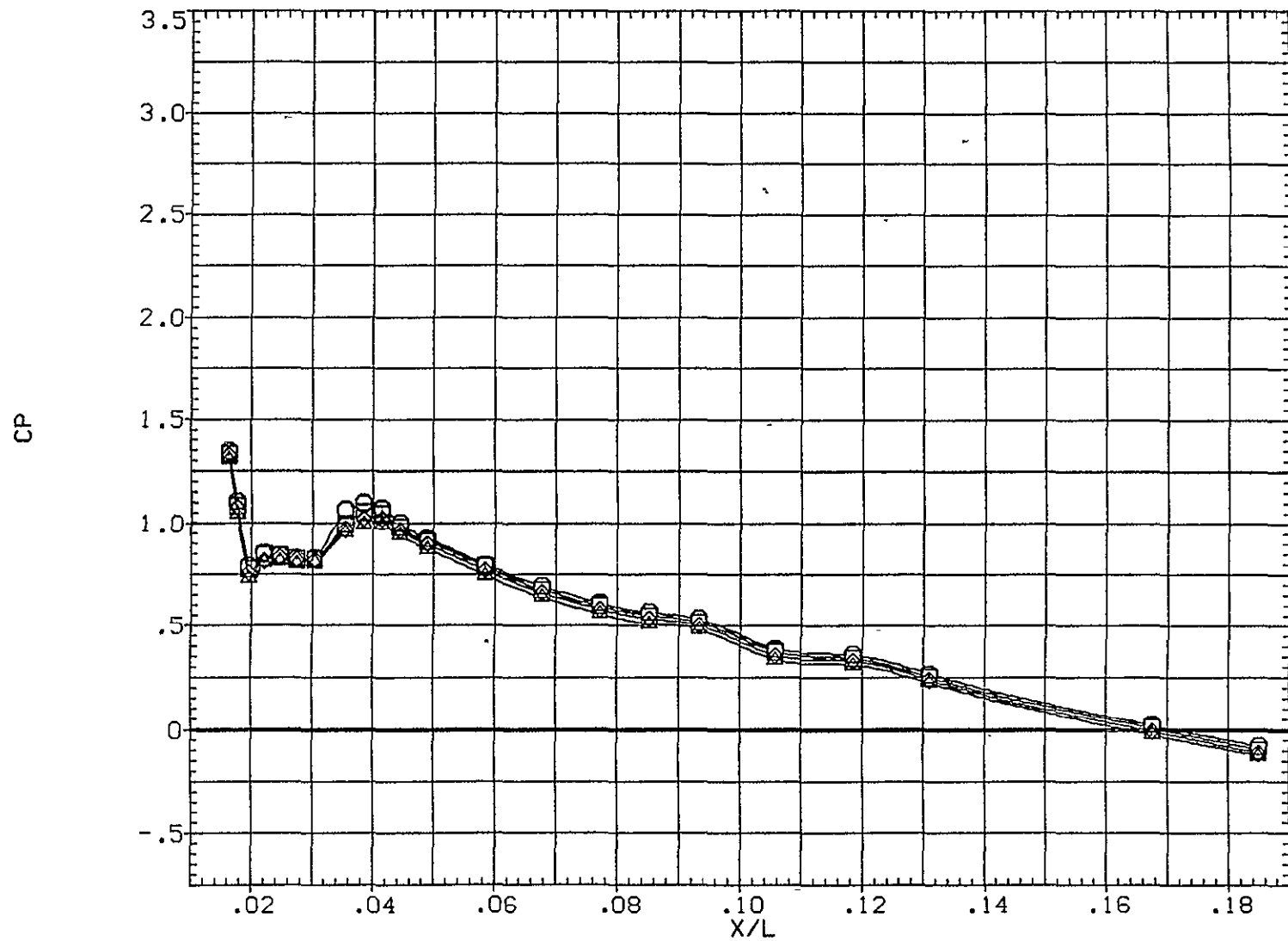
(B1G008)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	1.960	1.199	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
▷	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	1.960	1.199				.0r
□	225.000						
◇	247.500						
△	270.000						

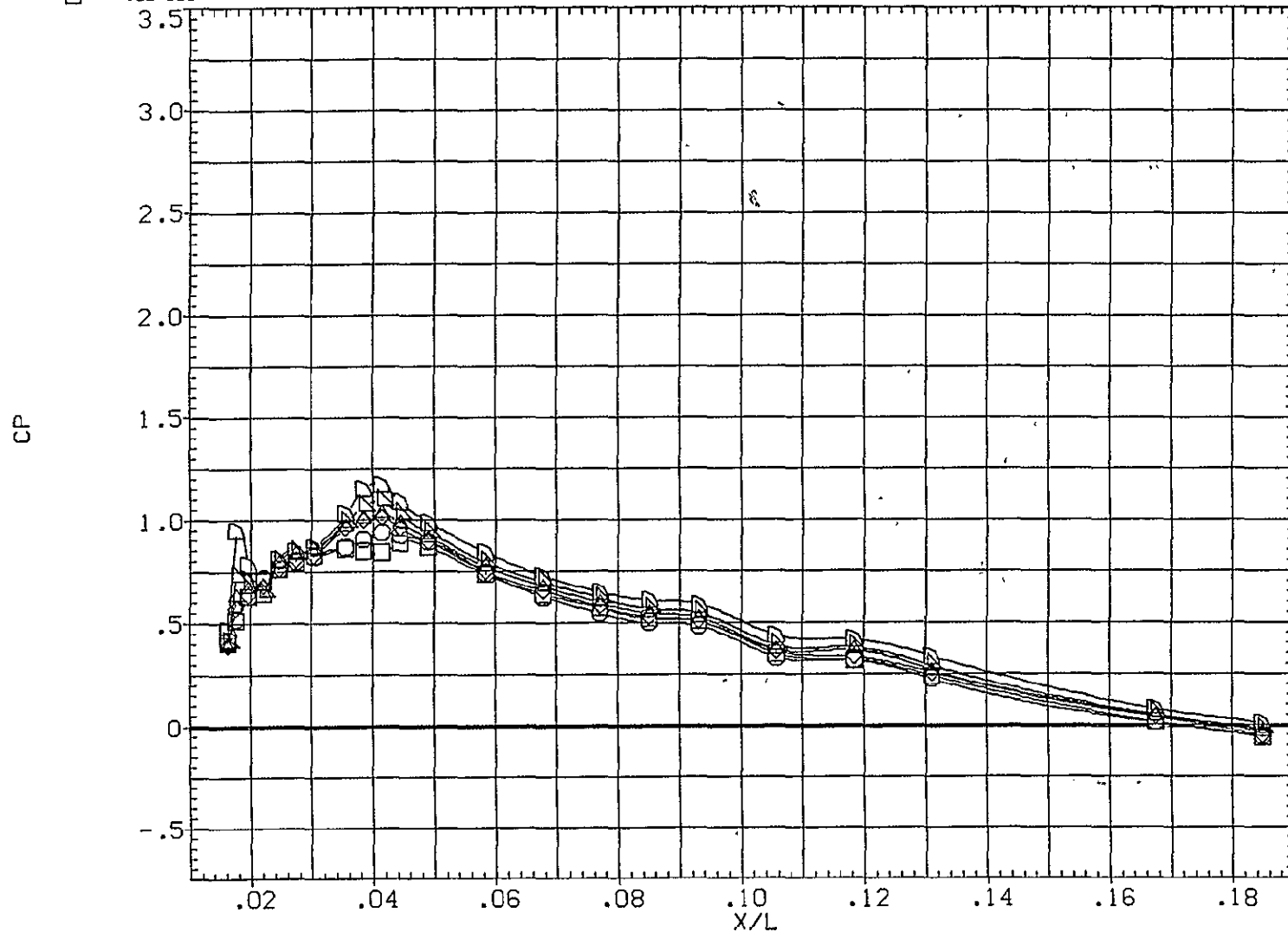


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G008)

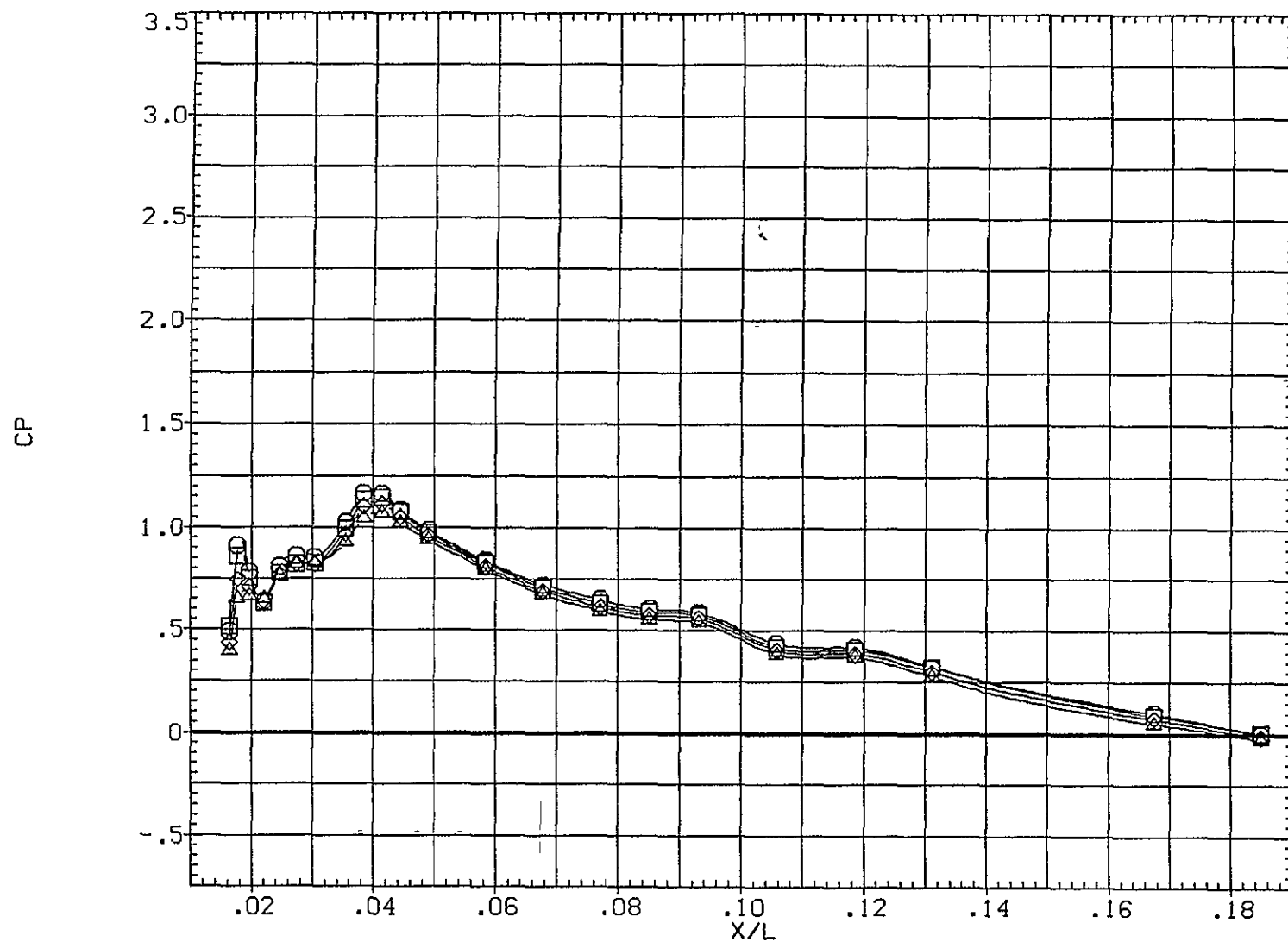
SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	1.960	1.447	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH
○	202.500	1.960	1.447
□	225.000		
◇	247.500		
△	270.000		

PARAMETRIC VALUES			
BETA	.000	PHI	.01

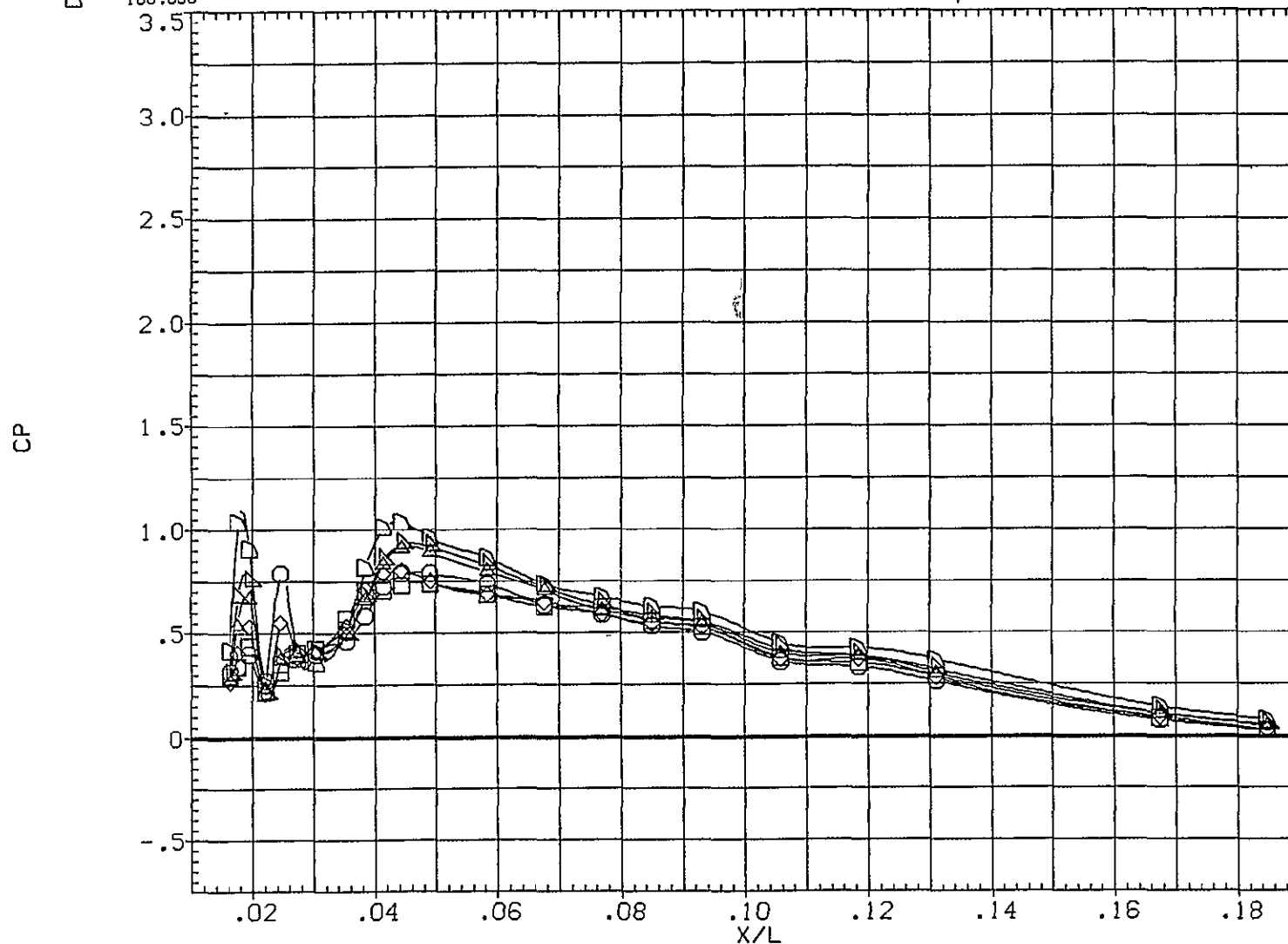


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G008)

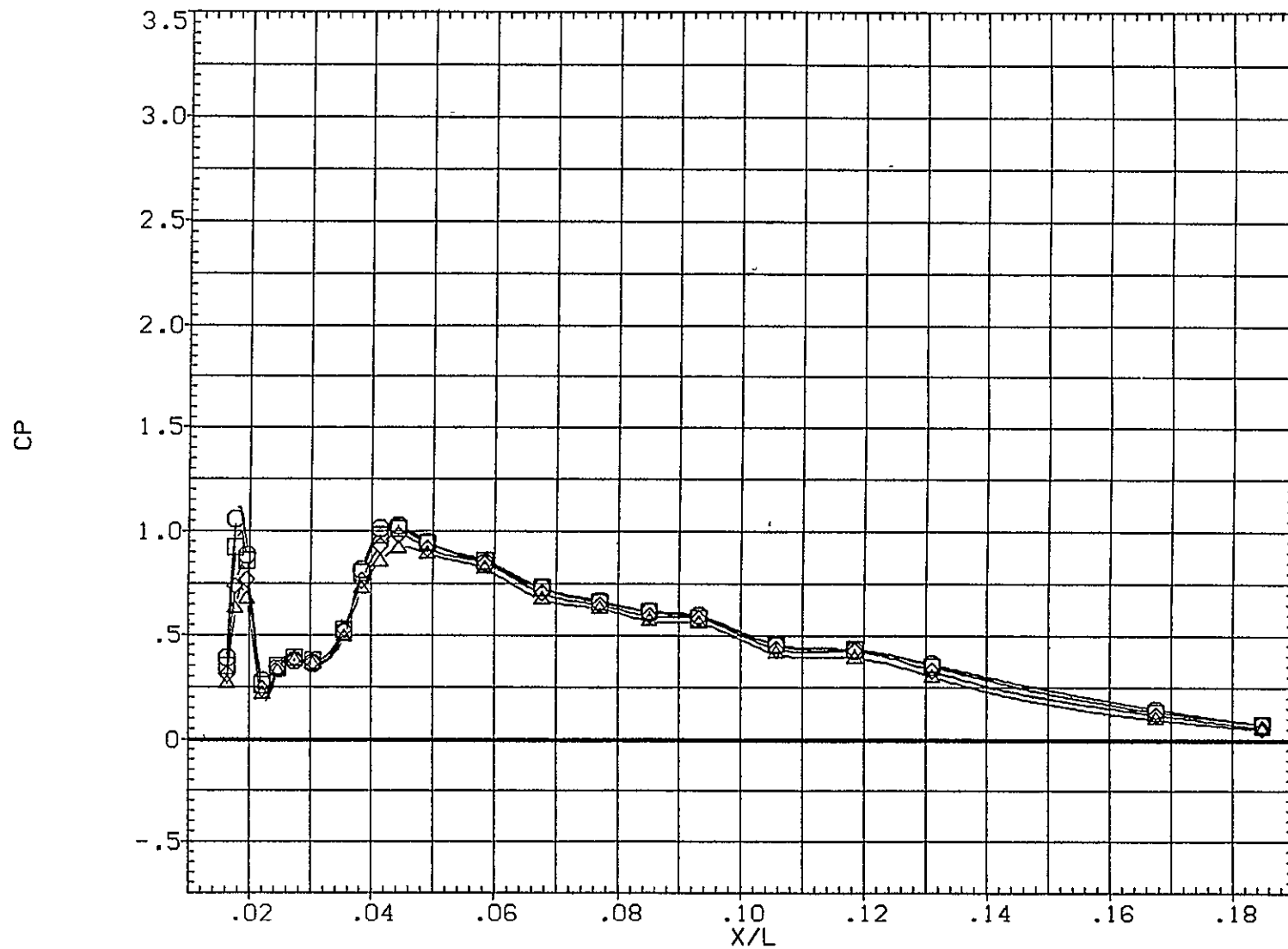
SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	1.960	1.961	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◻	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH
○	202.500	1.960	1.961
□	225.000		
◇	247.500		
△	270.000		

PARAMETRIC VALUES		
BETA	.000	PHI
.0		



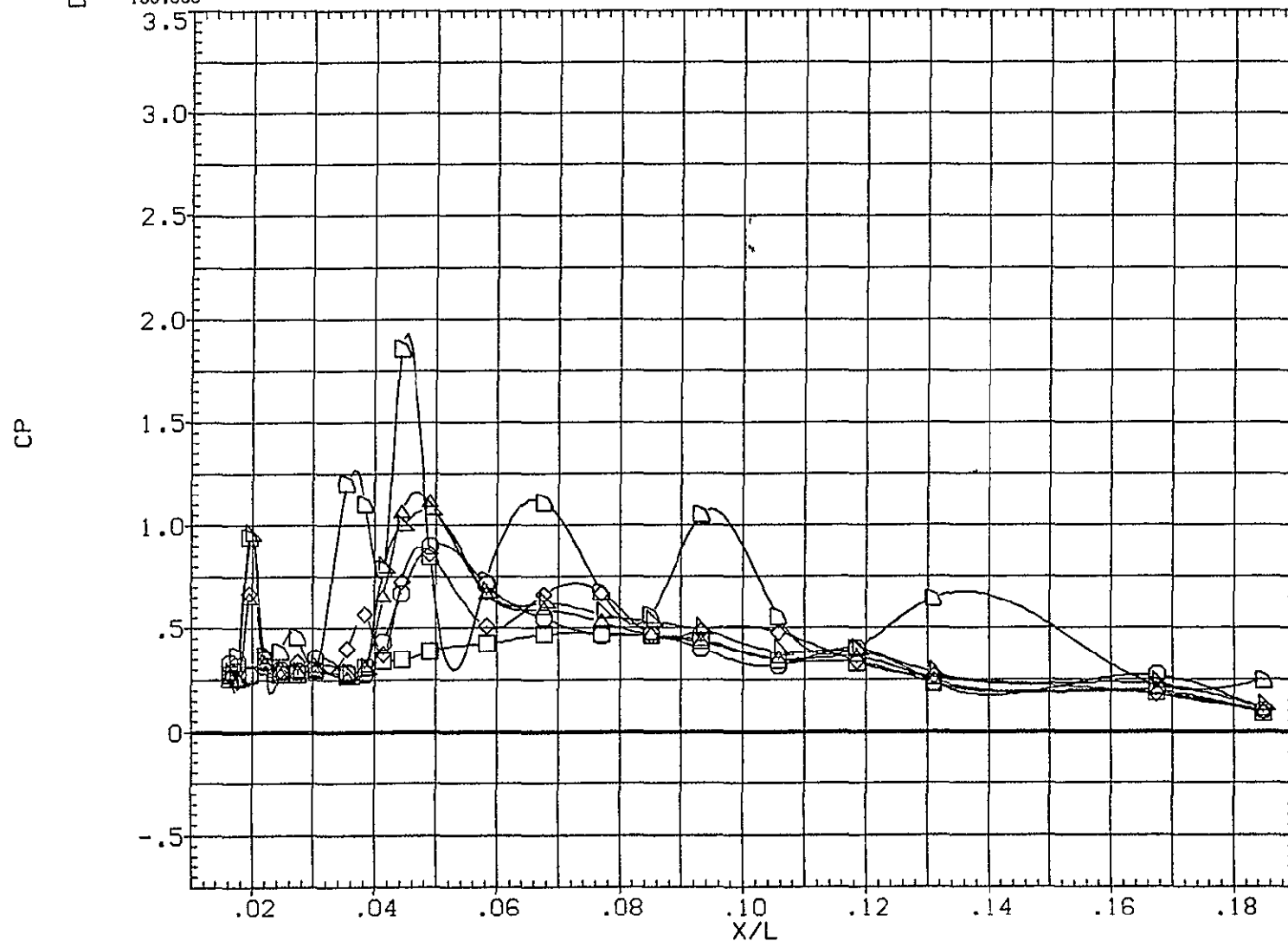
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

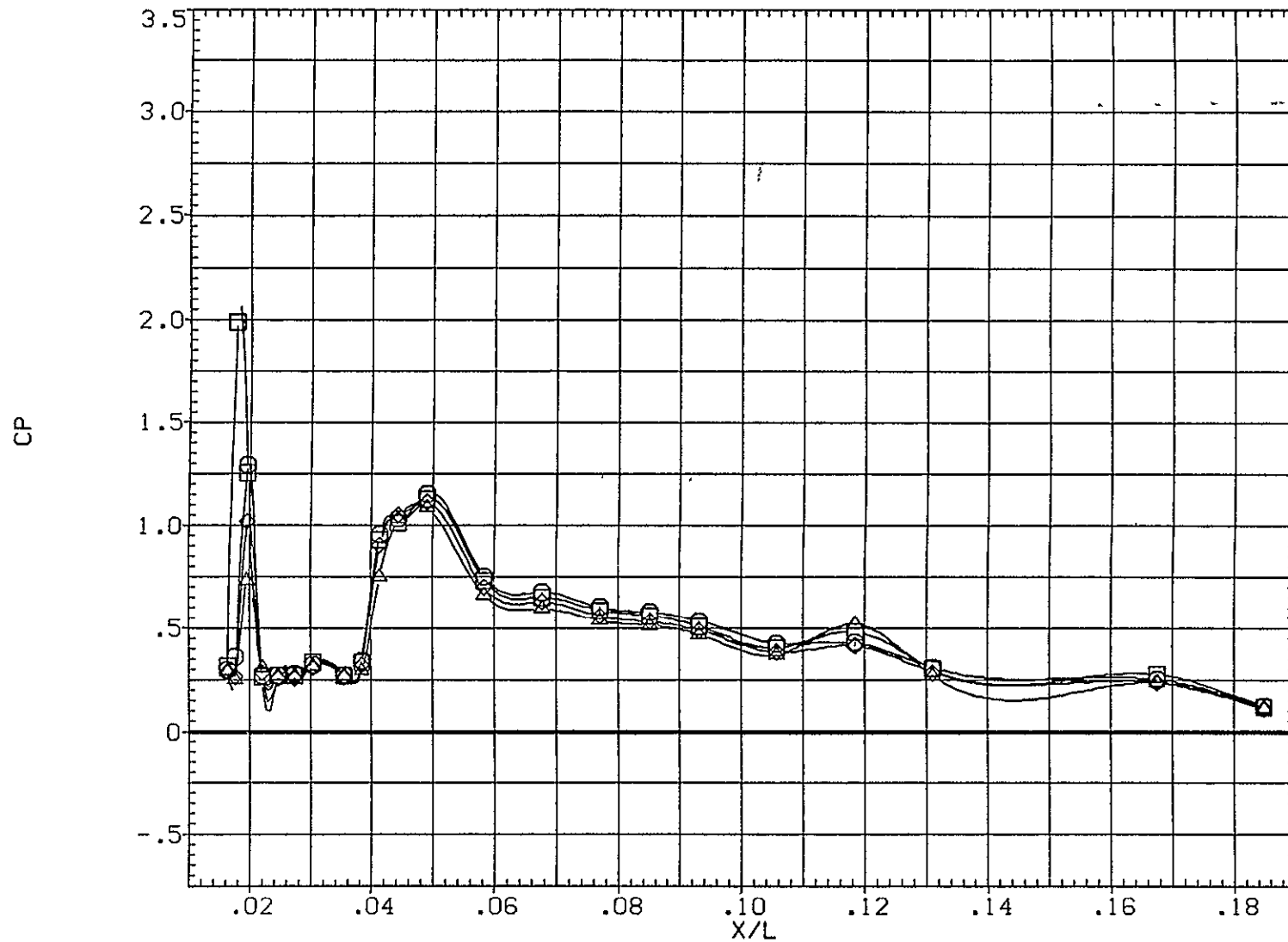
(B1G008)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	1.960	4.960	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
▷	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	202.500	1.960	4.960	.000	PHI .000
□	225.000				
◇	247.500				
△	270.000				

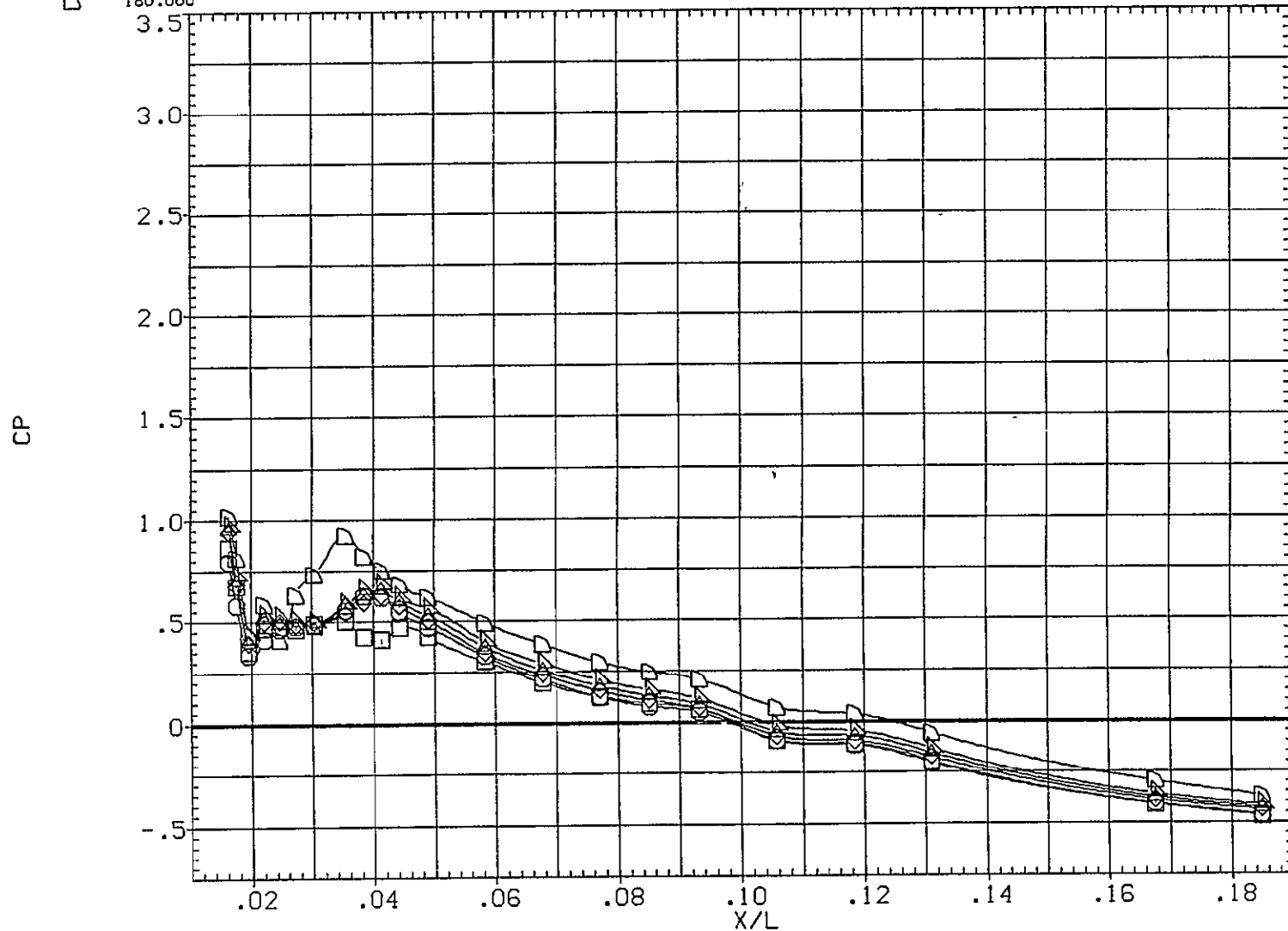


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

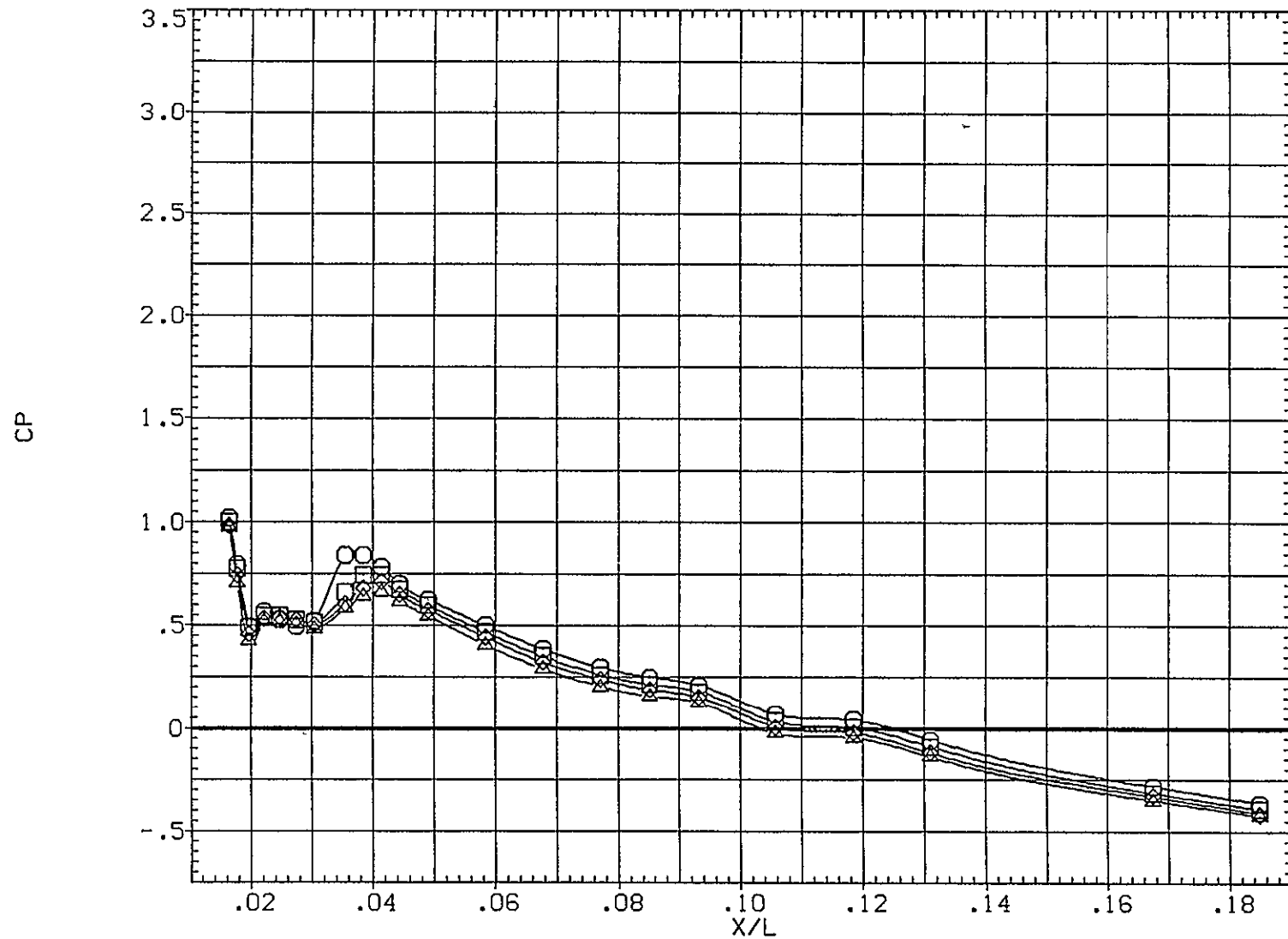
(B1G009)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	2.980	.598	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◊	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	2.980	.598				.000
□	225.000						
◇	247.500						
△	270.000						

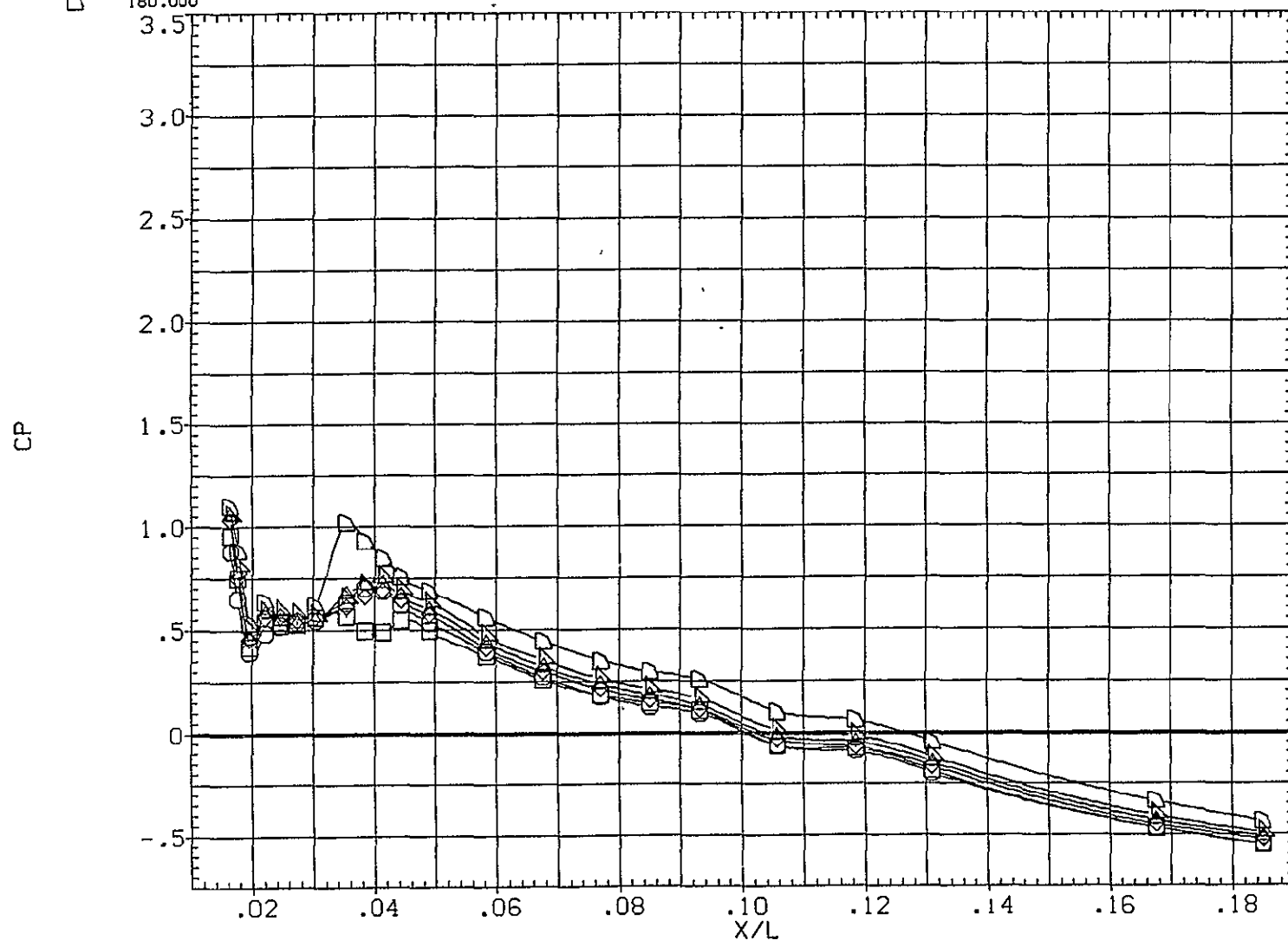


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

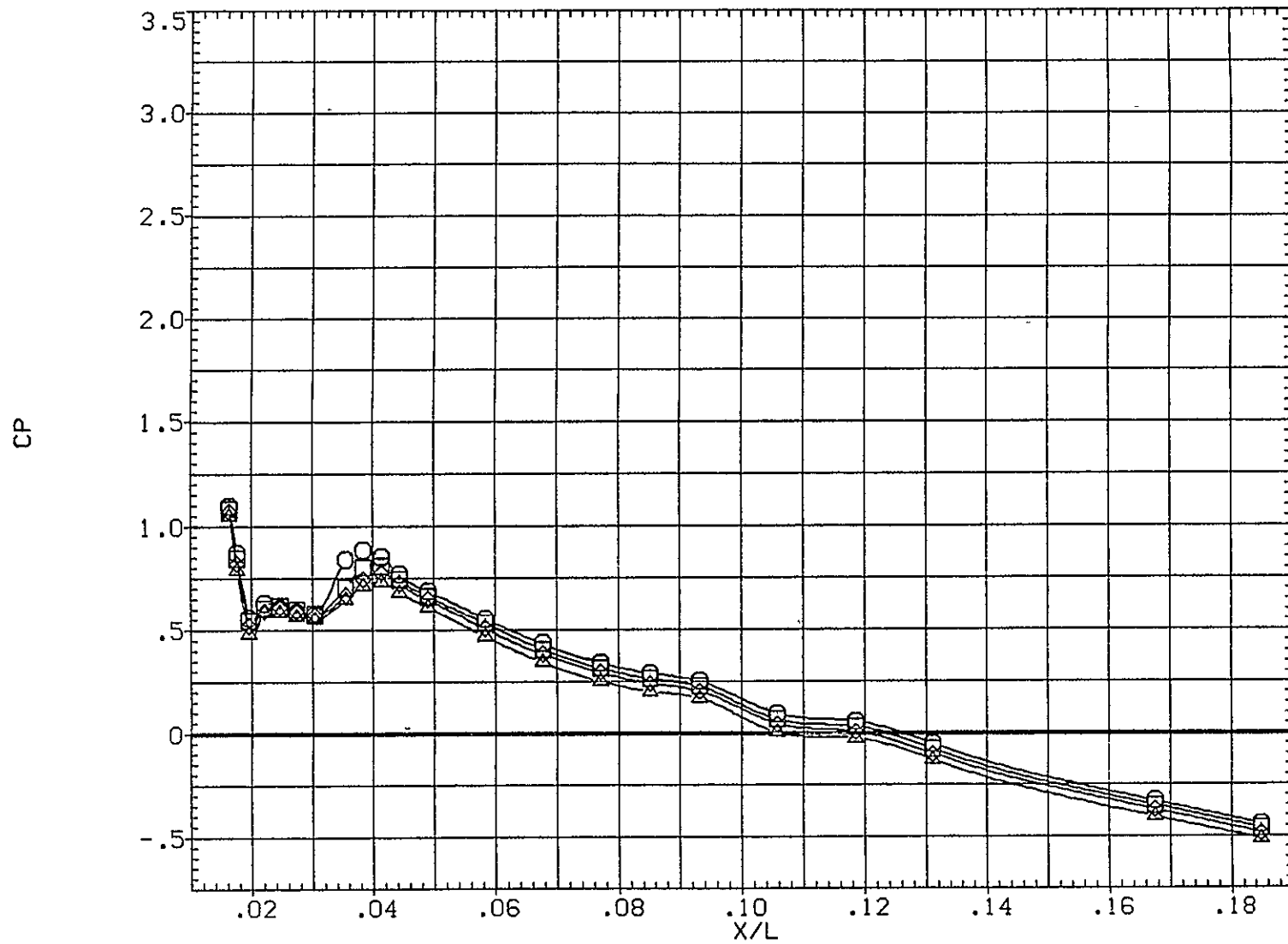
(B16009)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	2.980	.799	.000		.000
◇	22.500					
△	45.000					
▽	67.500					
□	90.000					
D	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	2.980	.799				
□	225.000						
◇	247.500						
△	270.000						

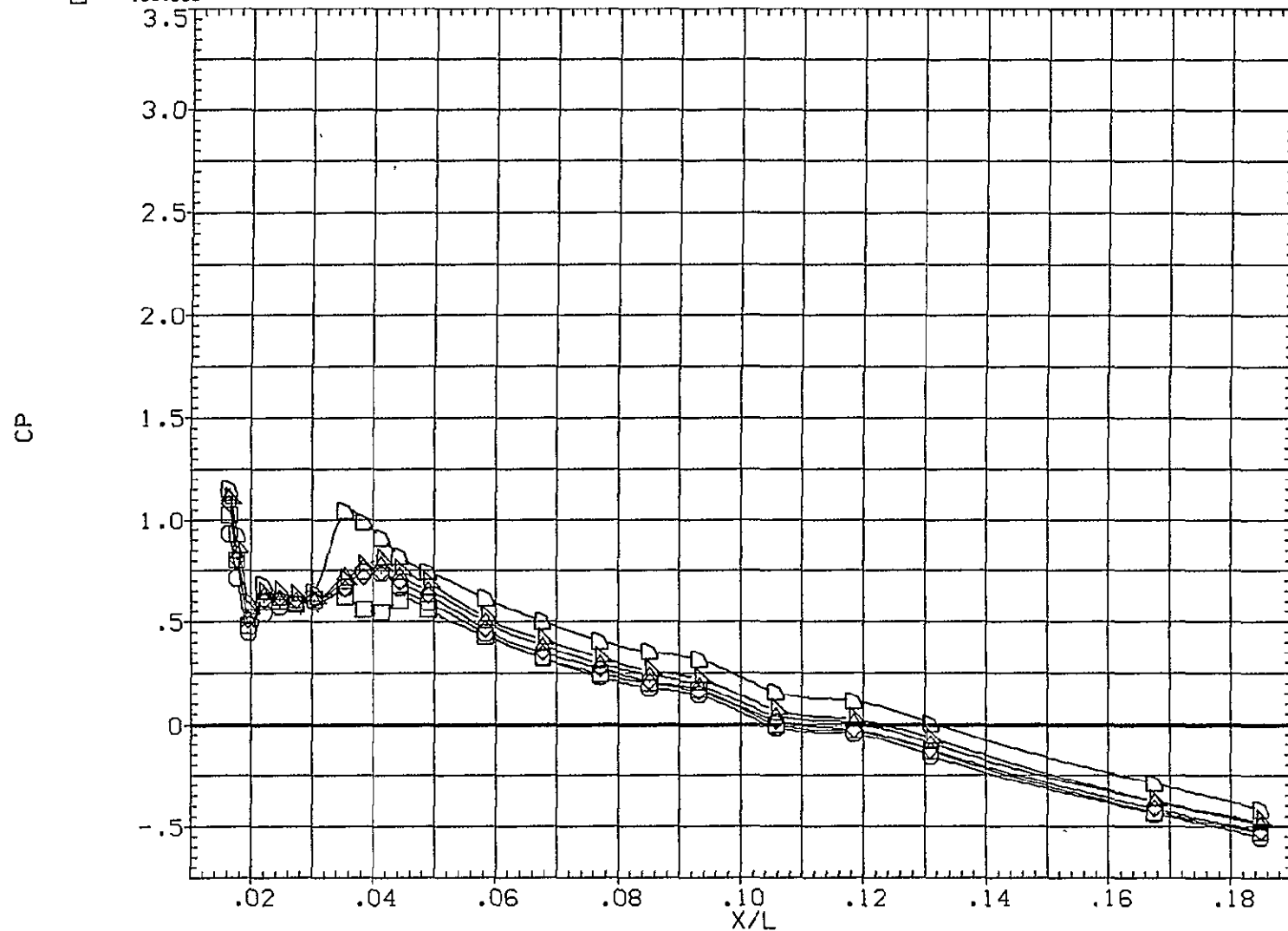


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

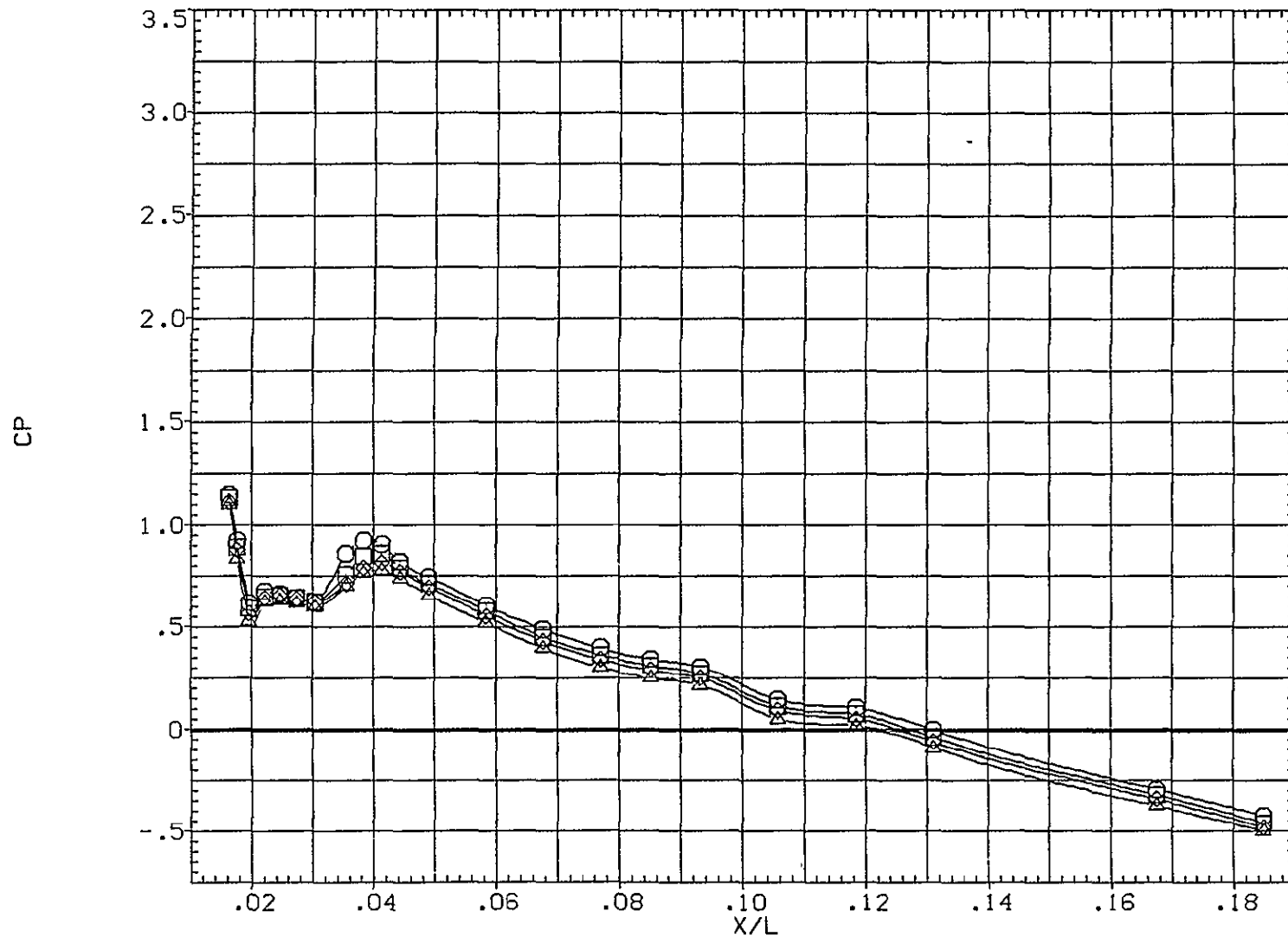
(B1G009)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	
	.000	2.980	.901	.000	PHI	.000
	22.500					
	45.000					
	67.500					
	90.000					
180.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	2.980	.901				.001
□	225.000						
◇	247.500						
△	270.000						



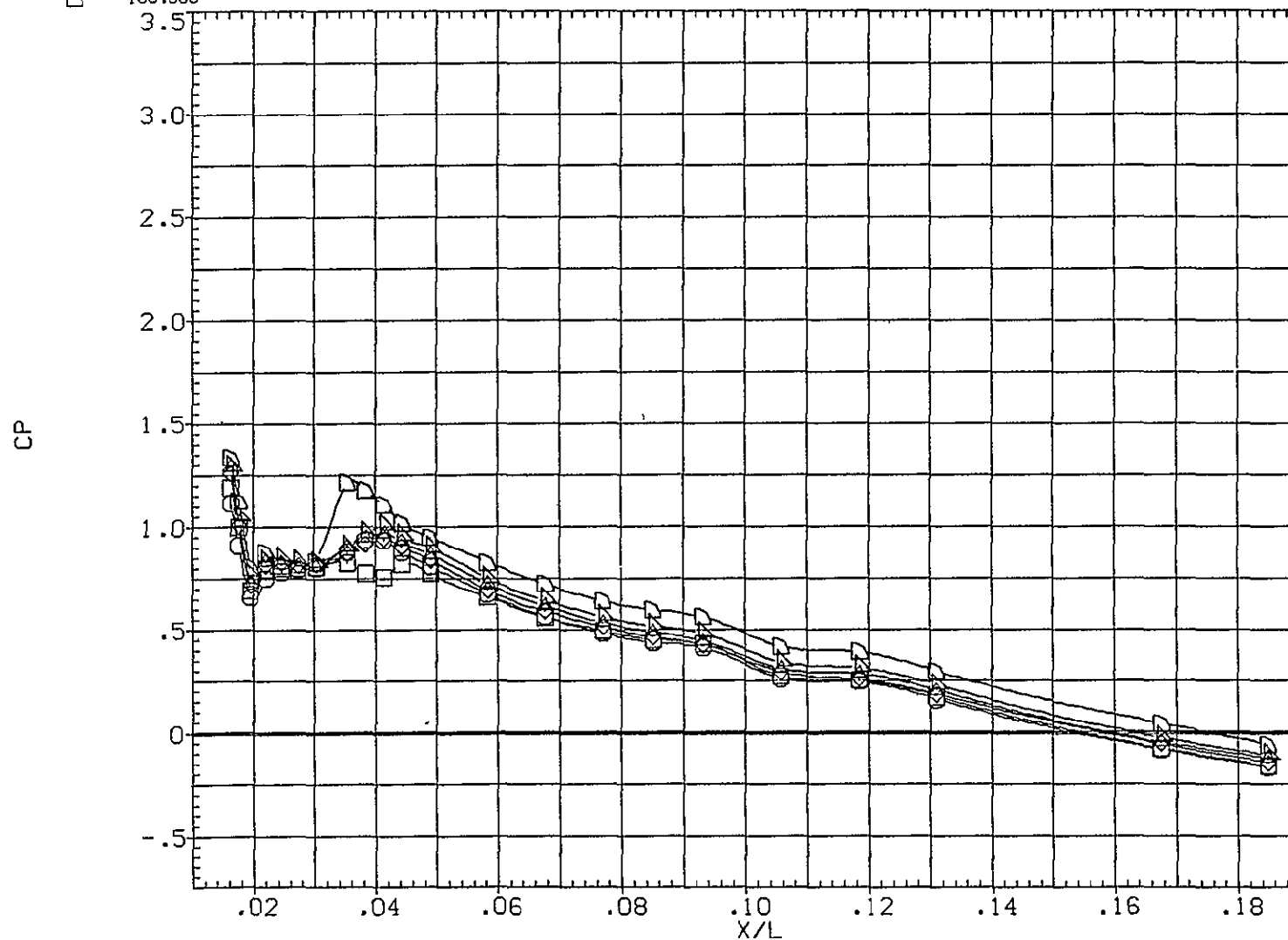
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G009)

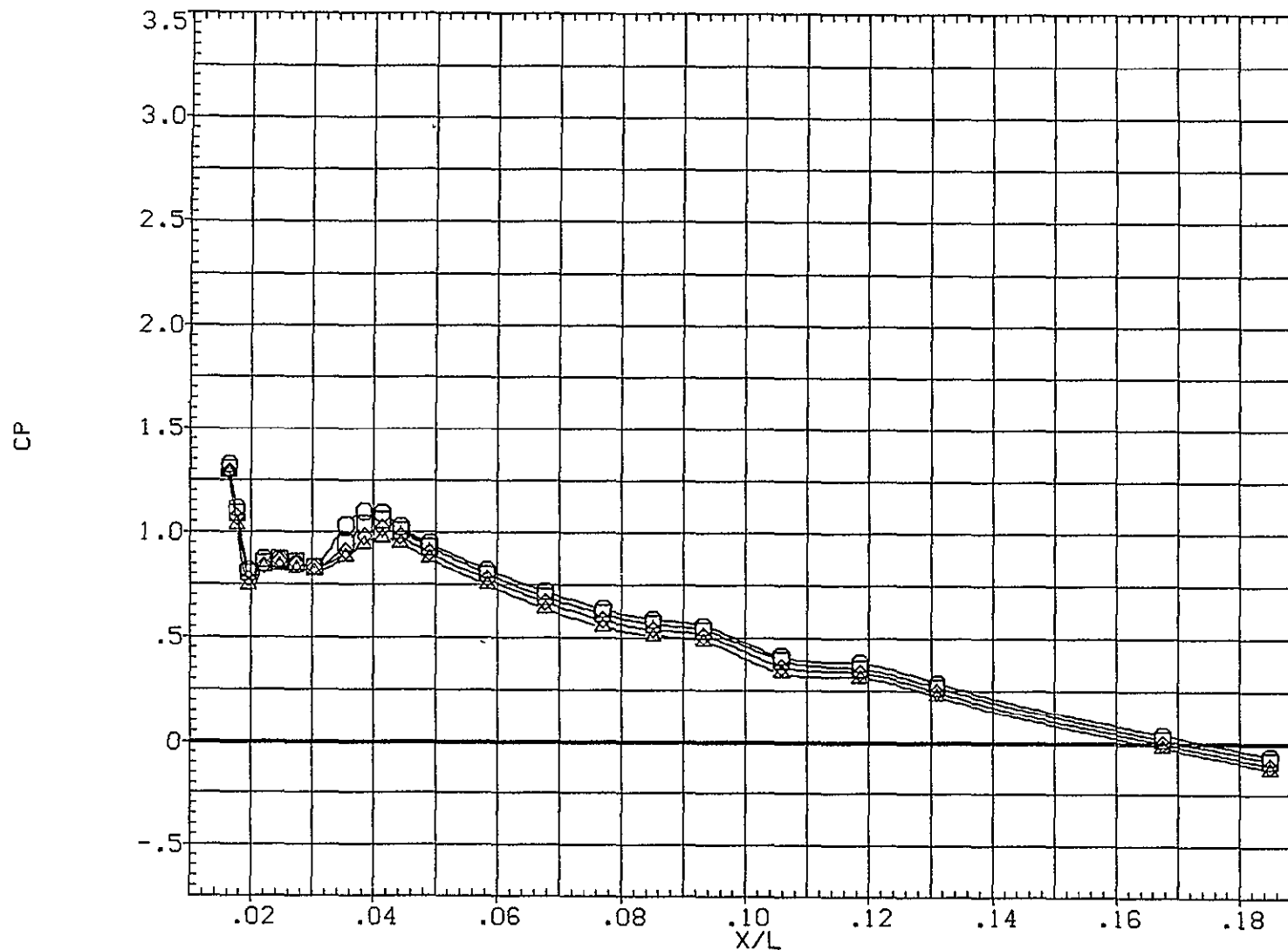
SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	2.980	1.195	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH
○	202.500	2.980	1.195
□	225.000		
◇	247.500		
△	270.000		

PARAMETRIC VALUES	
BETA	PHI
.000	.00

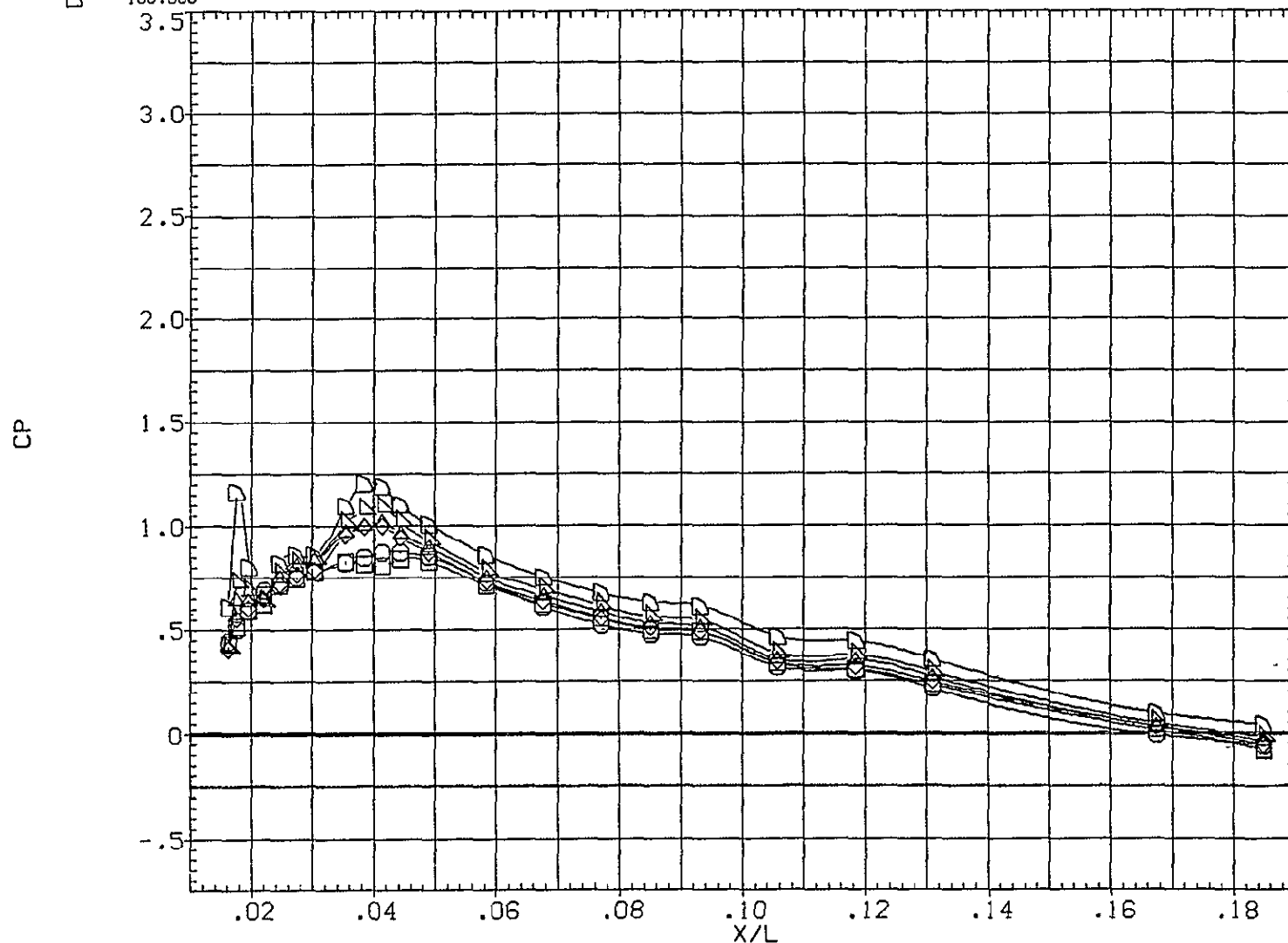


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G009)

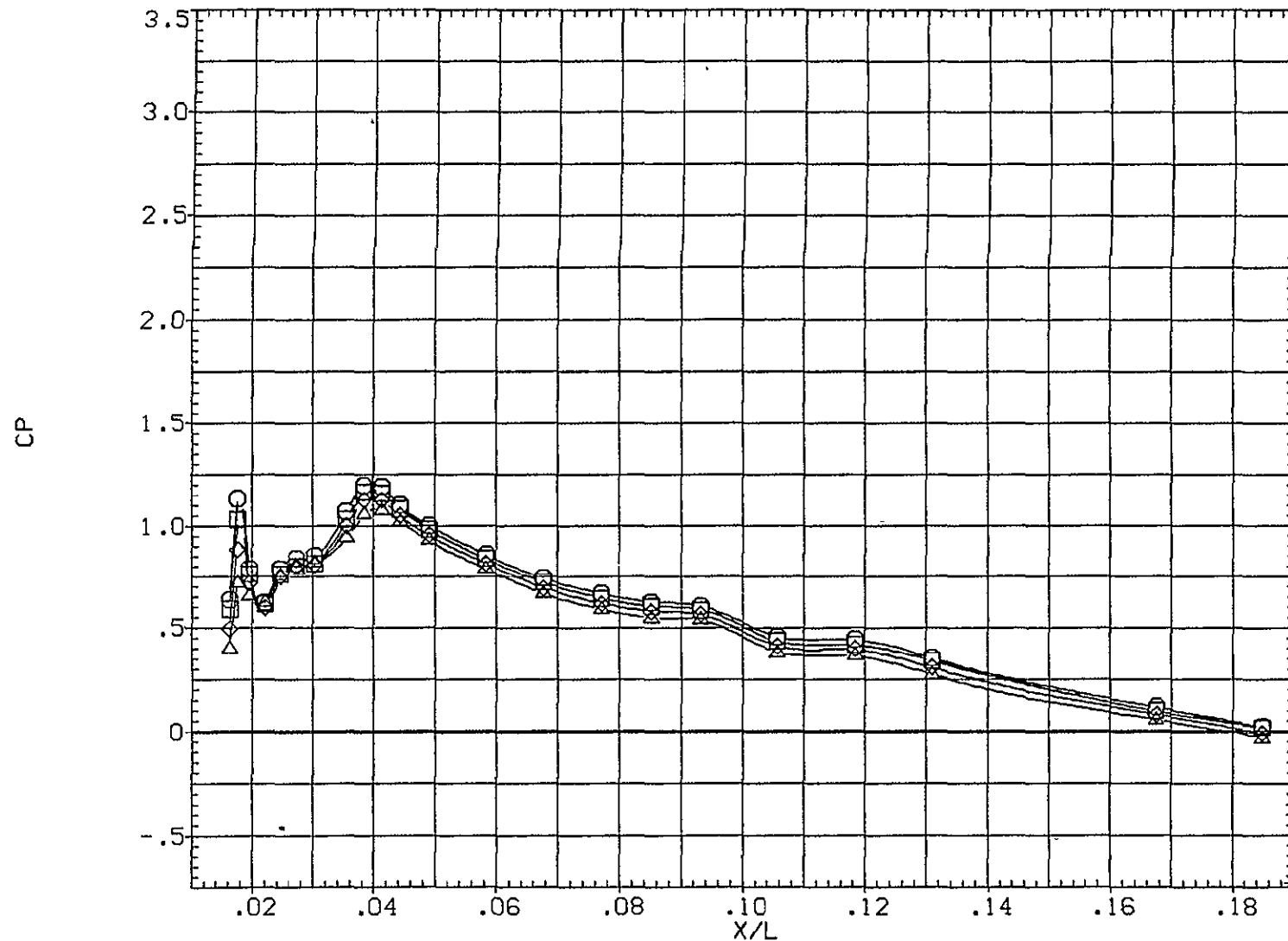
SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES		
○	.000	2.980	1.453		.000	PHI	.000
□	22.500						
◇	45.000						
△	67.500						
▽	90.000						
▷	180.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH
○	202.500	2.980	1.453
□	225.000		
◇	247.500		
△	270.000		

PARAMETRIC VALUES		
BETA	.000	PHI
.0		

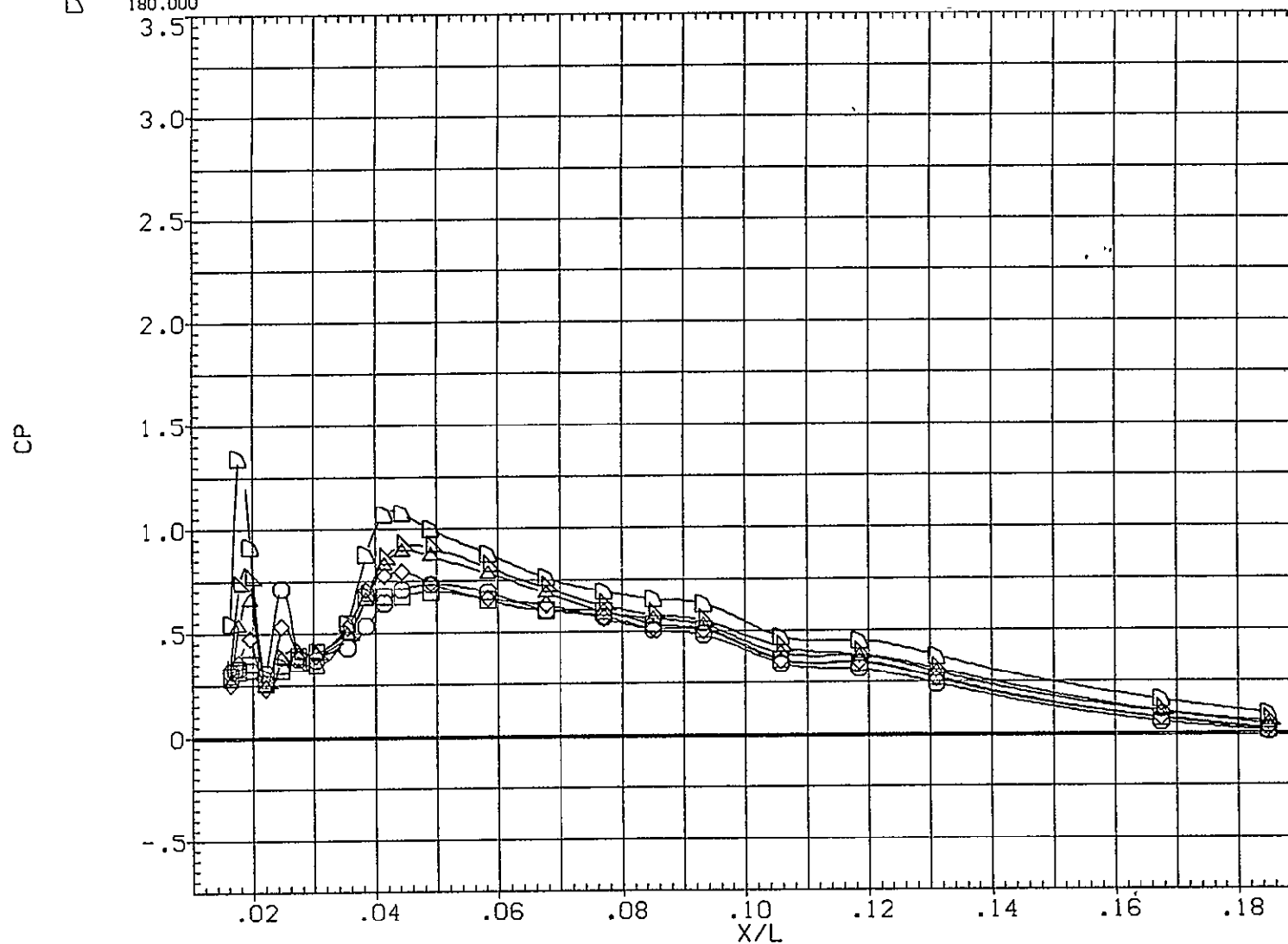


. EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

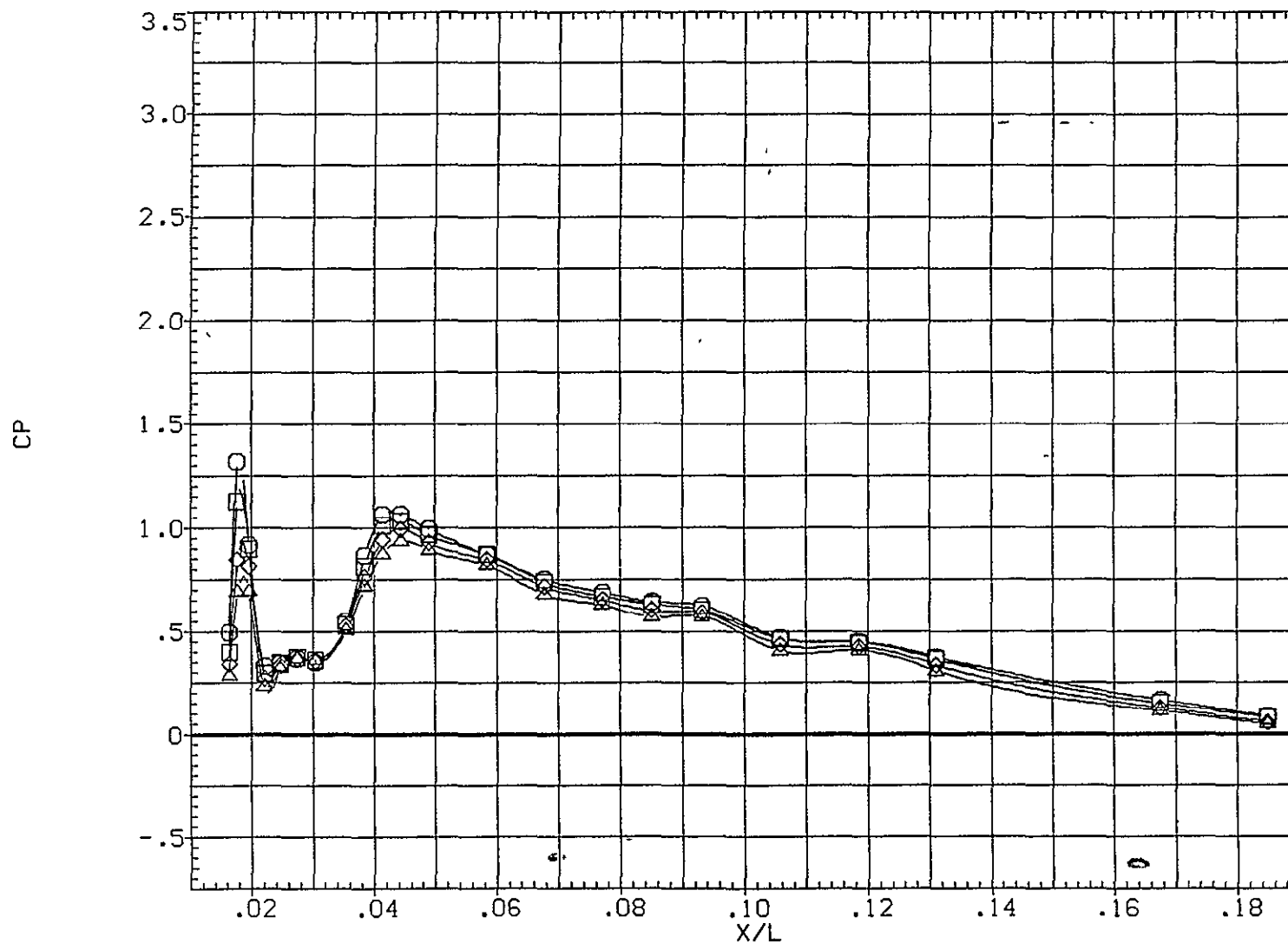
(B1G009)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	2.980	1.959	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
▷	180.000					



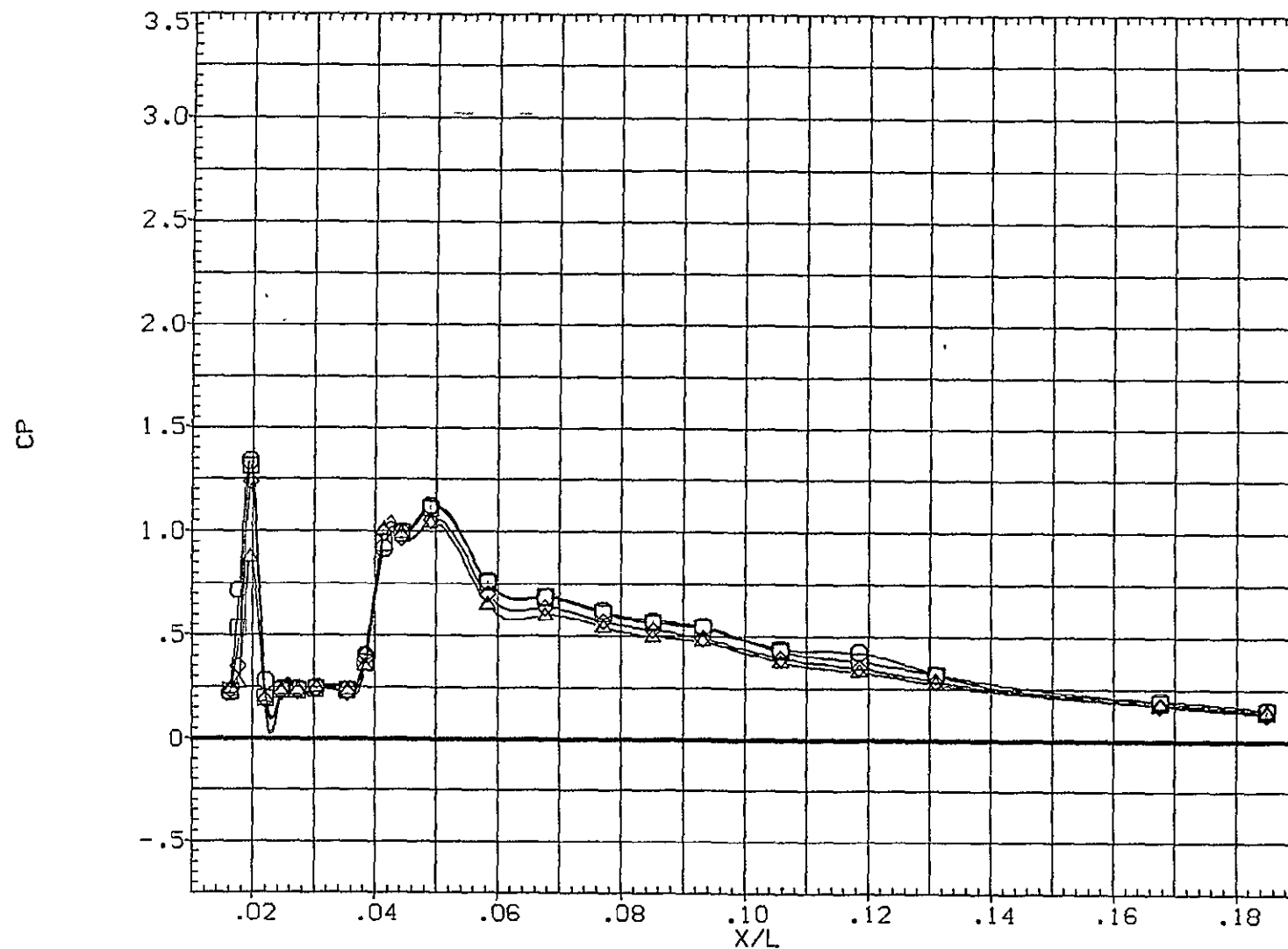
EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	2.980	1.959	BETA	.000	PHI
□	225.000					.000
◇	247.500					
△	270.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	2.960	4.960	BETA	.000	PHI
□	225.000					.00
◇	247.500					
△	270.000					

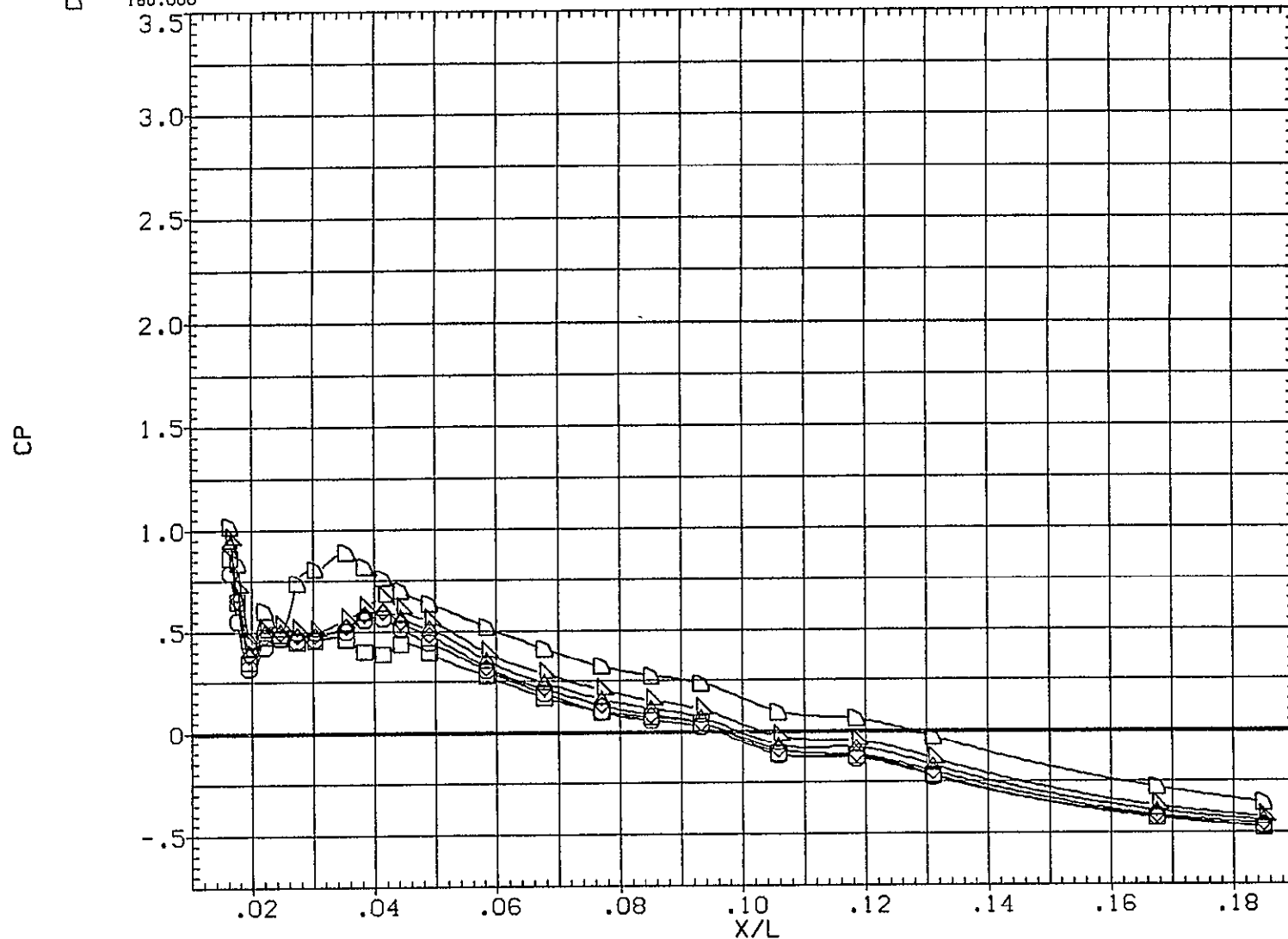


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G010)

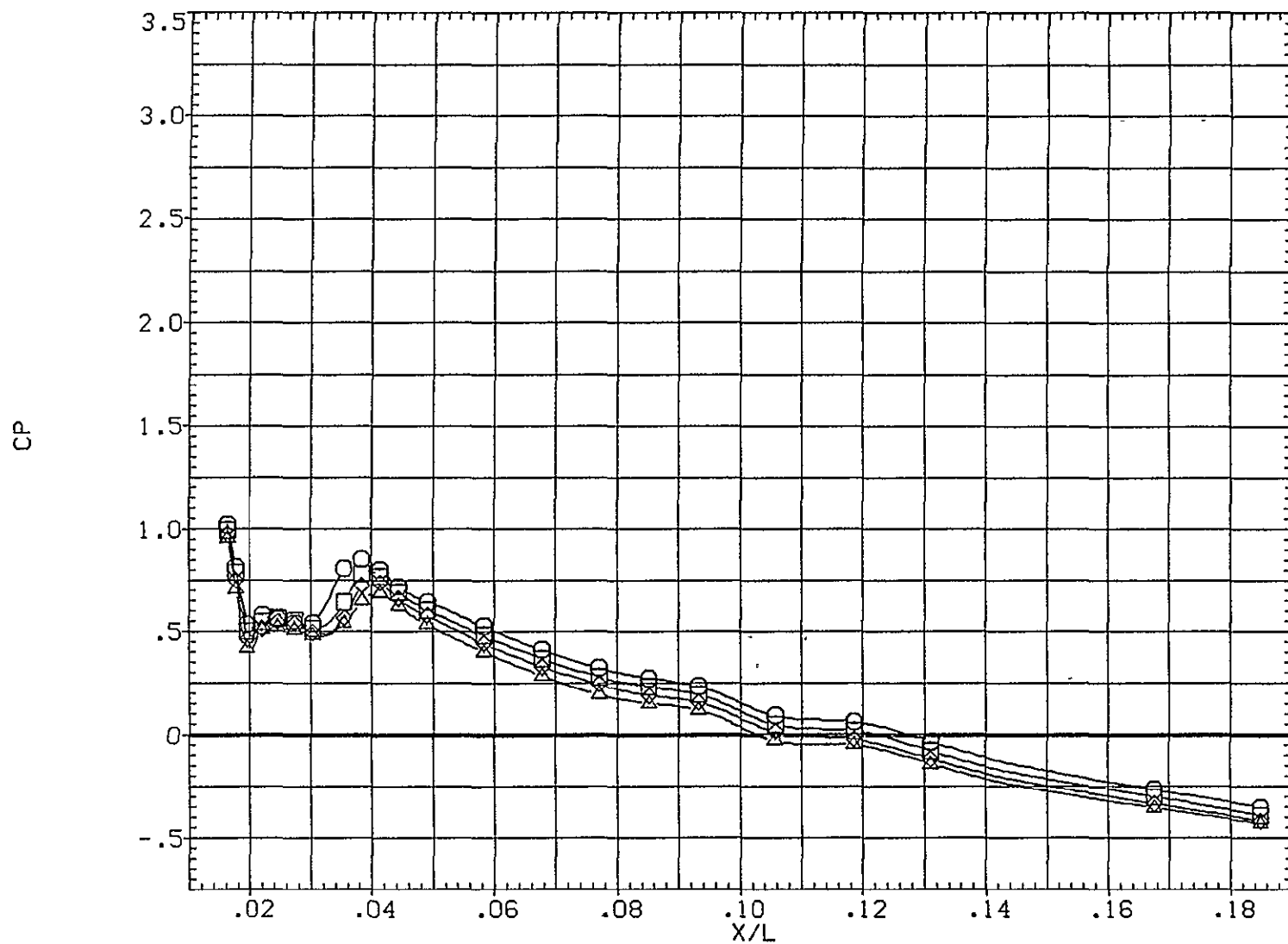
SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	3.960	.598	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE



SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	202.500	3.960	.598	BETA	.000	PHI
□	225.000					.000
◇	247.500					
△	270.000					

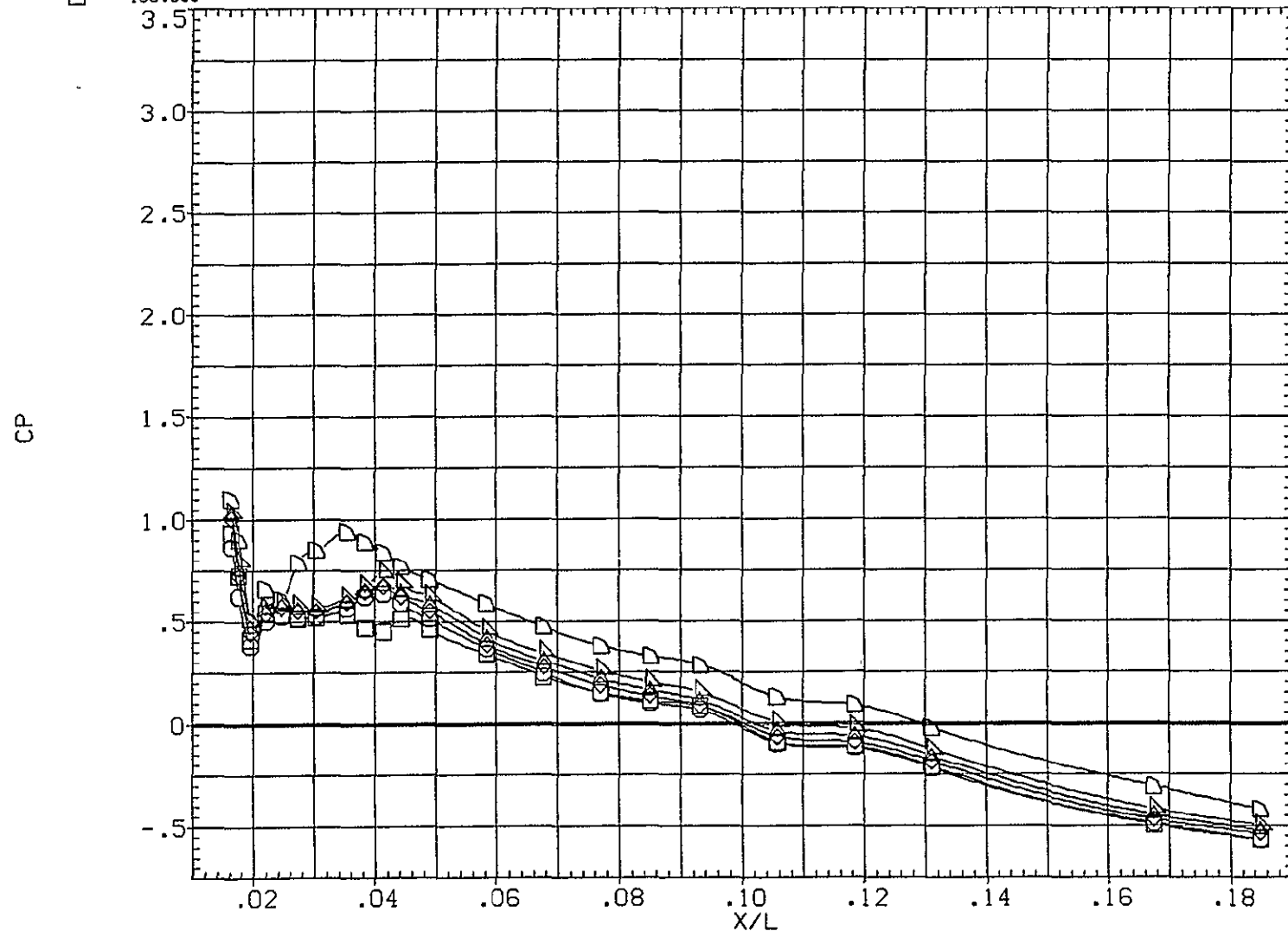


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

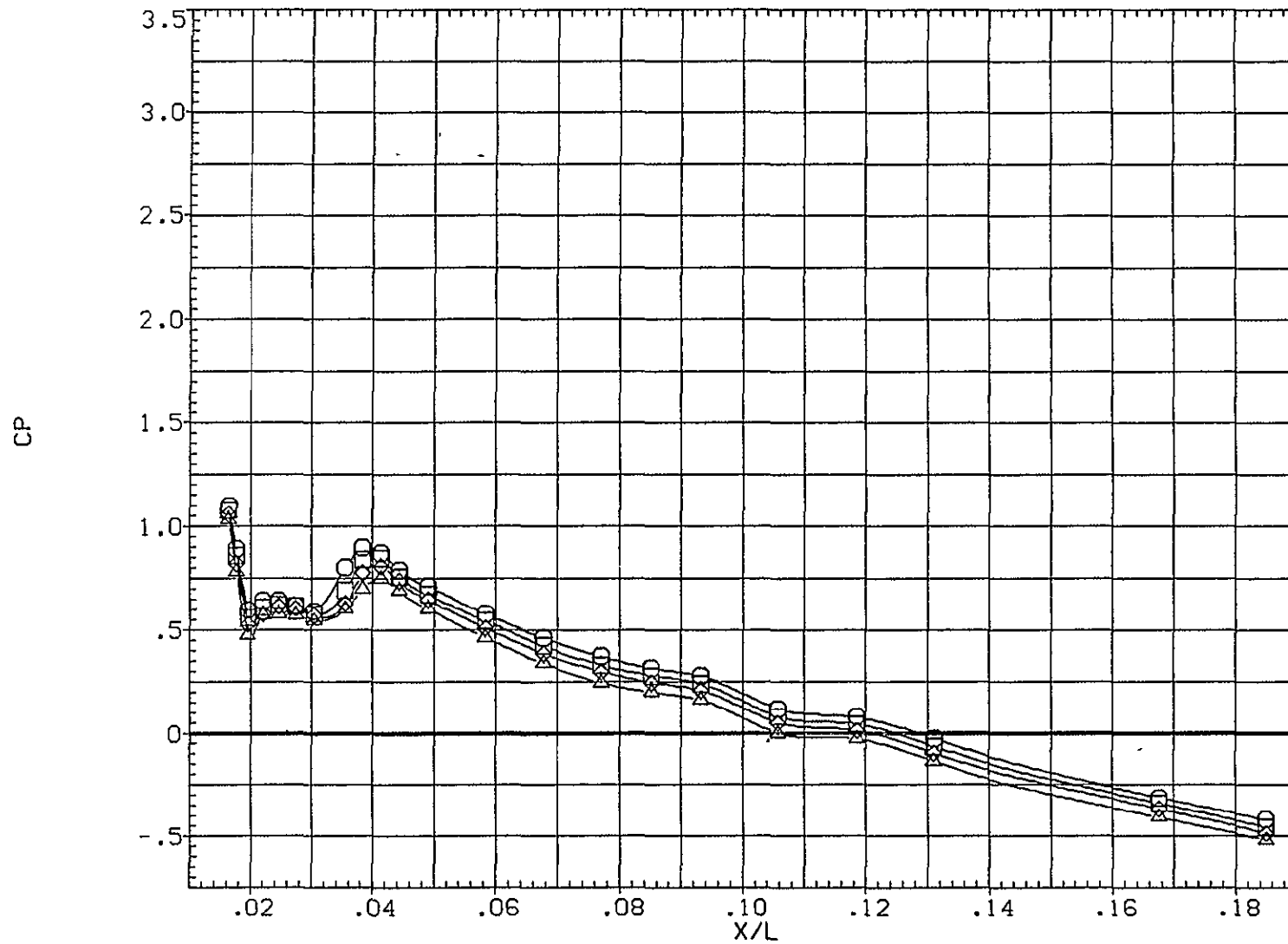
(B1G010)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	3.960	.798			
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI
○	202.500	3.960	.798			.001
□	225.000					
◇	247.500					
△	270.000					

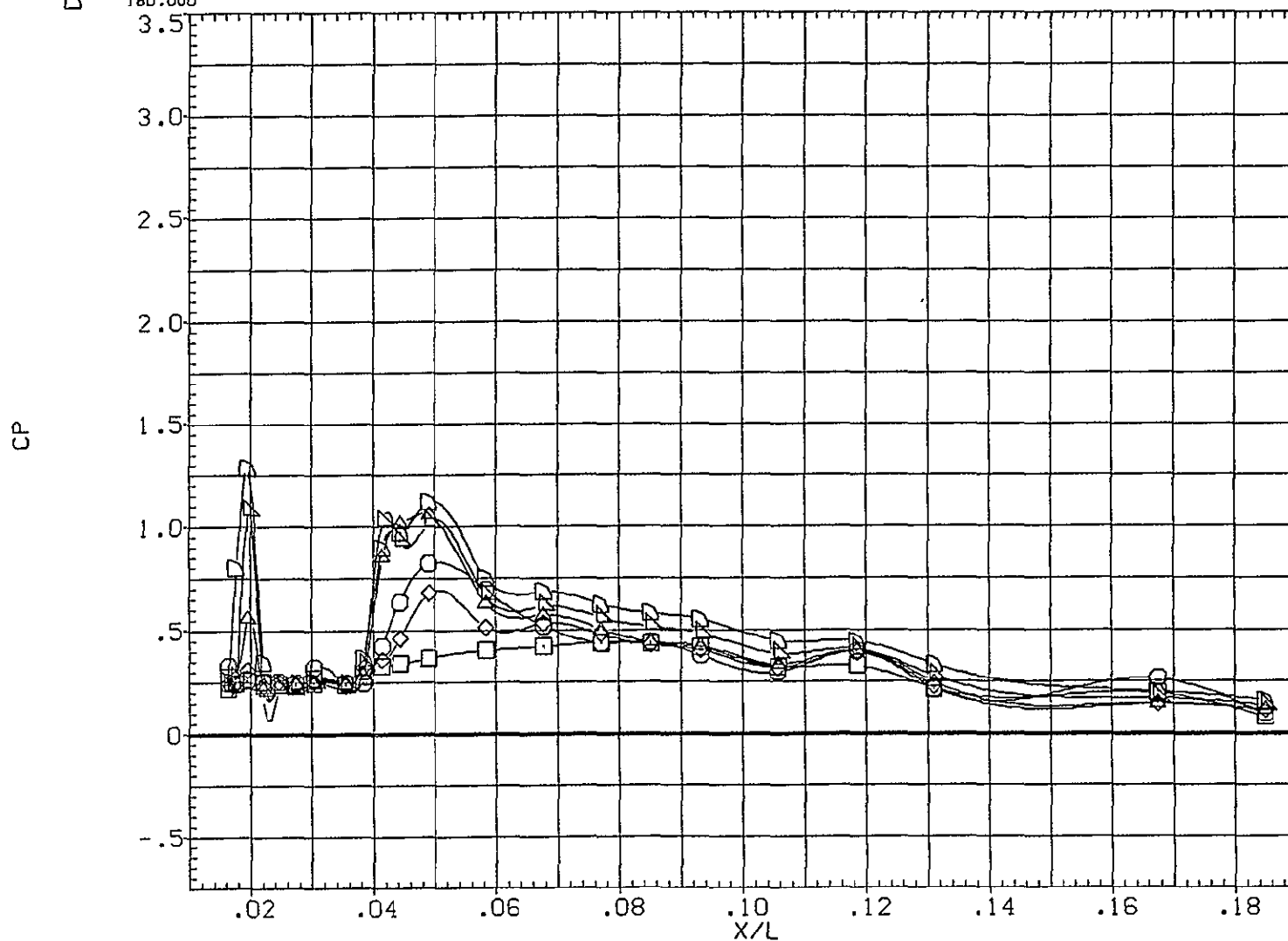


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G009)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	2.960	4.960	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◊	180.000					

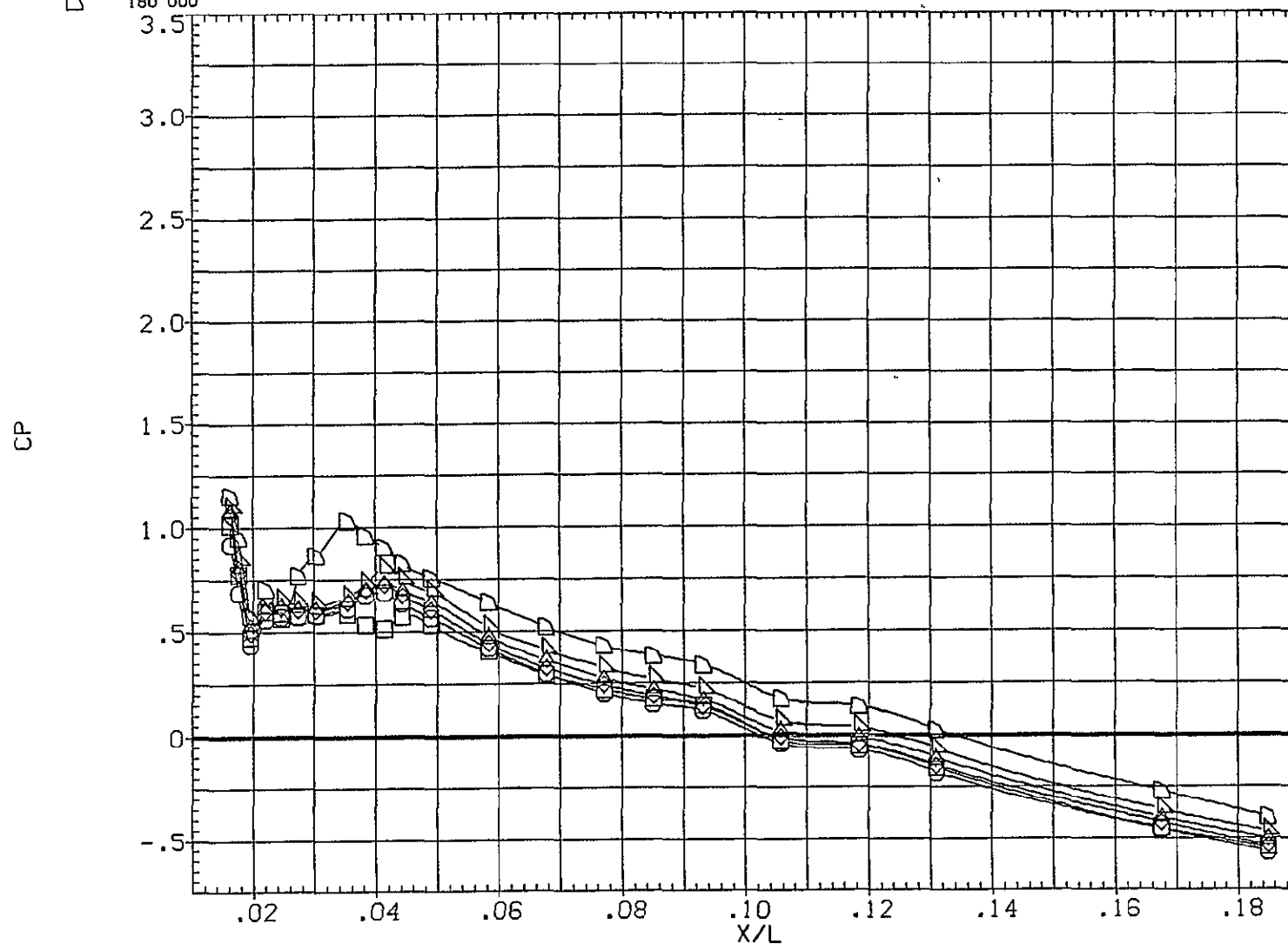


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

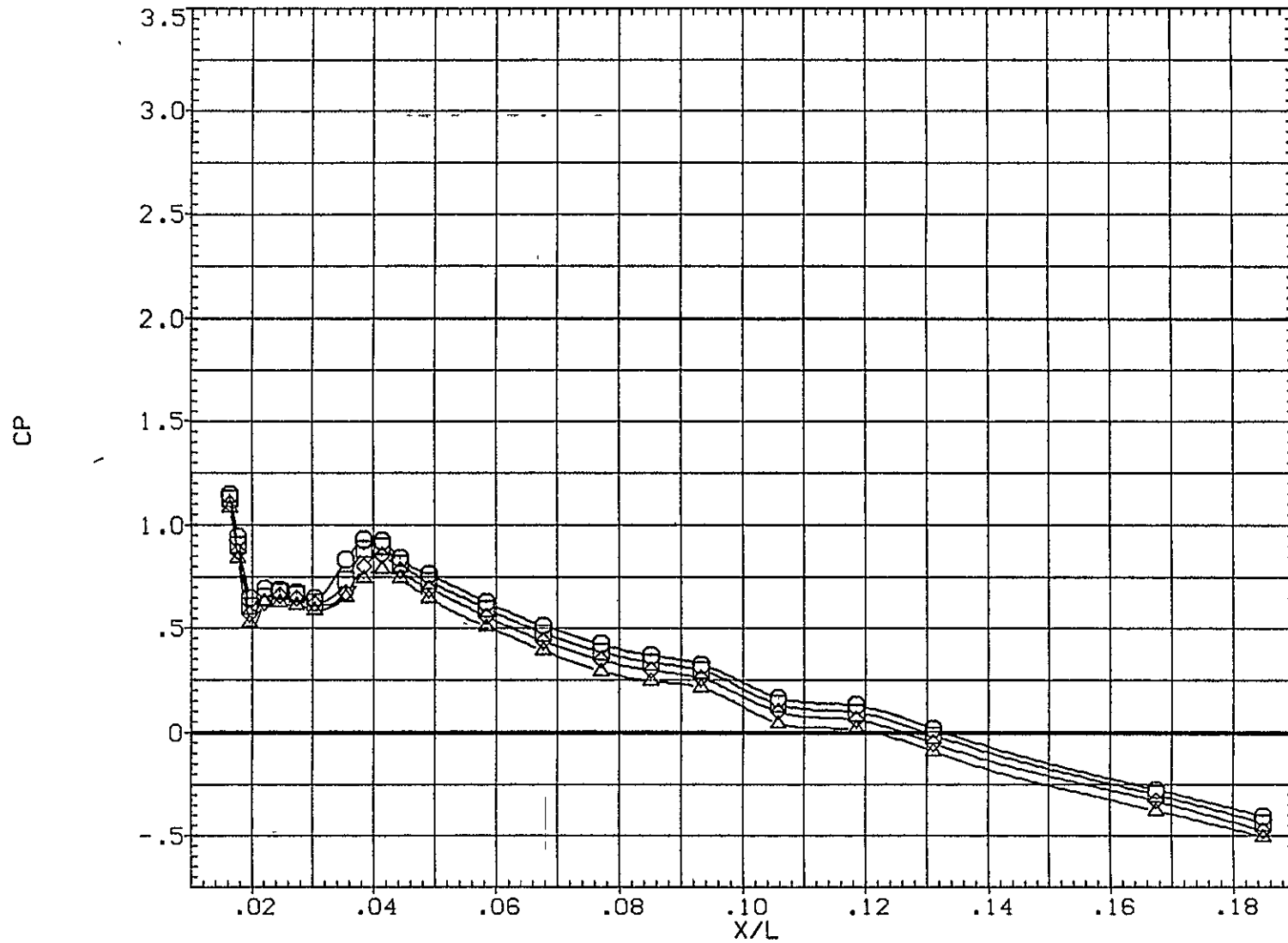
(B1G010)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	3.960	.901	.000		.000
◇	22.500					
◇	45.000					
△	67.500					
▽	90.000					
□	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES		
○	202.500	3.960	.901		.000	PHI	.0
□	225.000						
◇	247.500						
△	270.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B16010)

SYMBOL

THETA

ALPHA

MACH

BETA

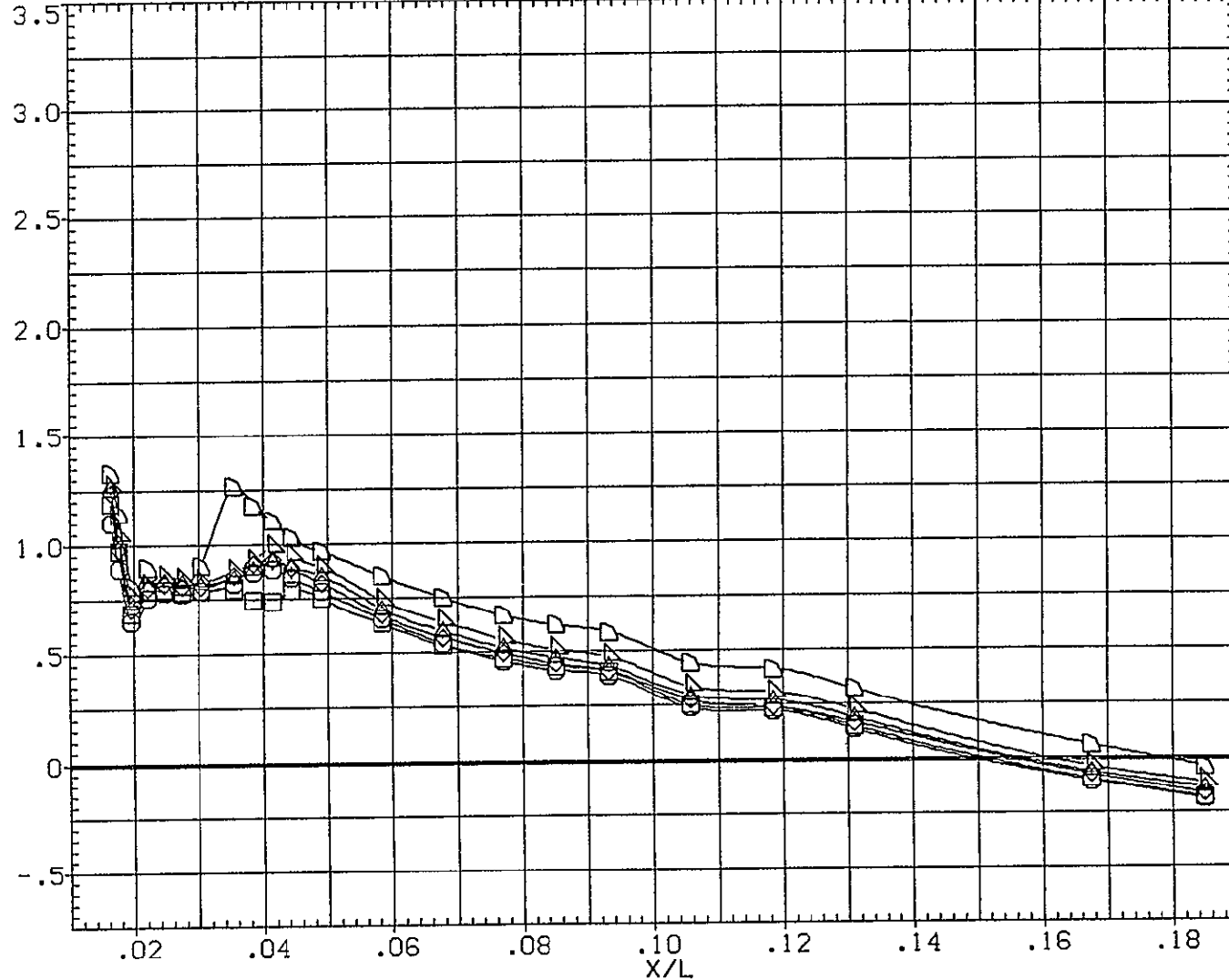
PARAMETRIC VALUES

.000

PHI

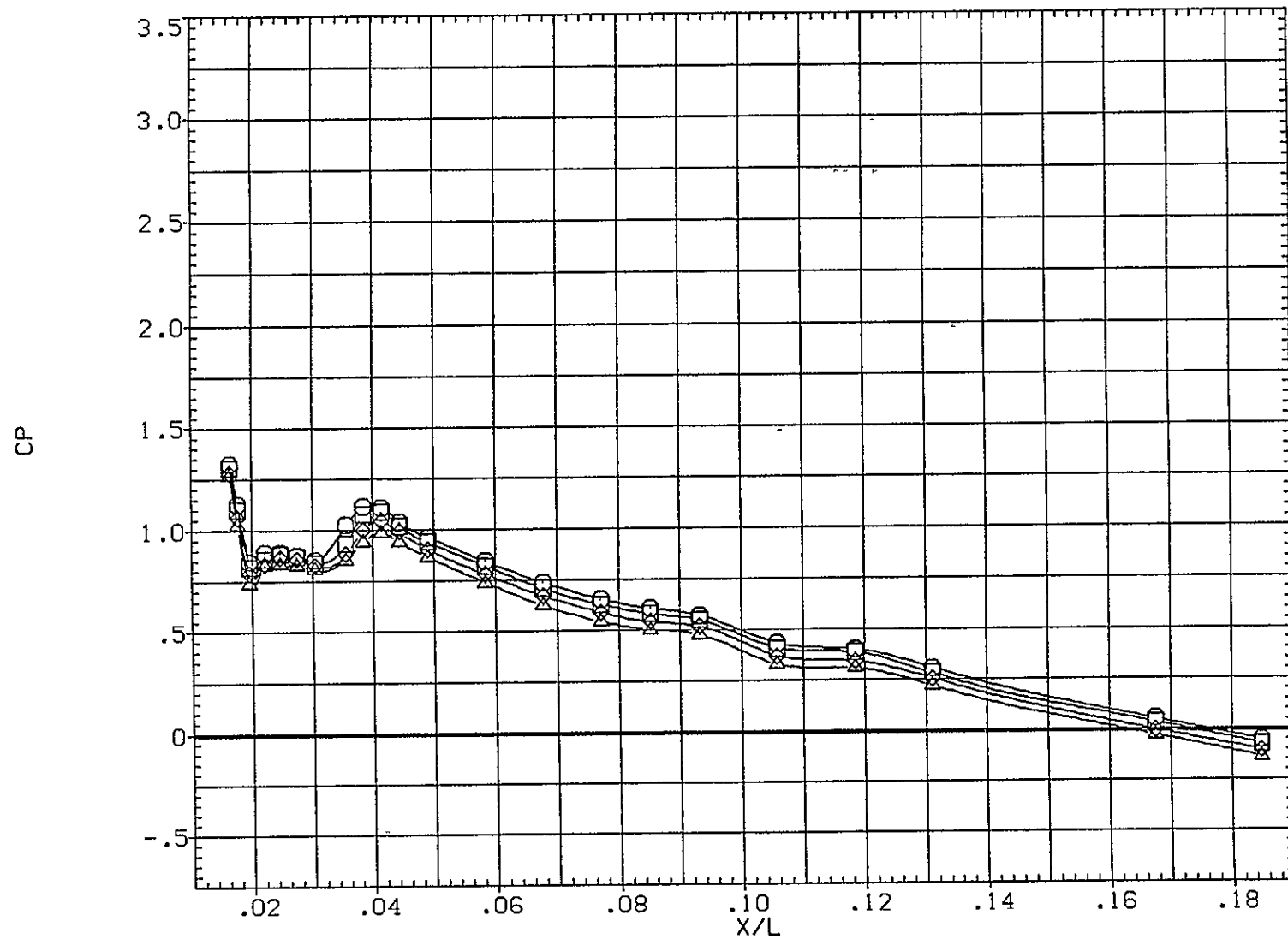
.000

0  
□  
◇  
△  
▽  
◇  
▽  
180.000



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	3.960	1.191		.000		.00
□	225.000						
◇	247.500						
△	270.000						



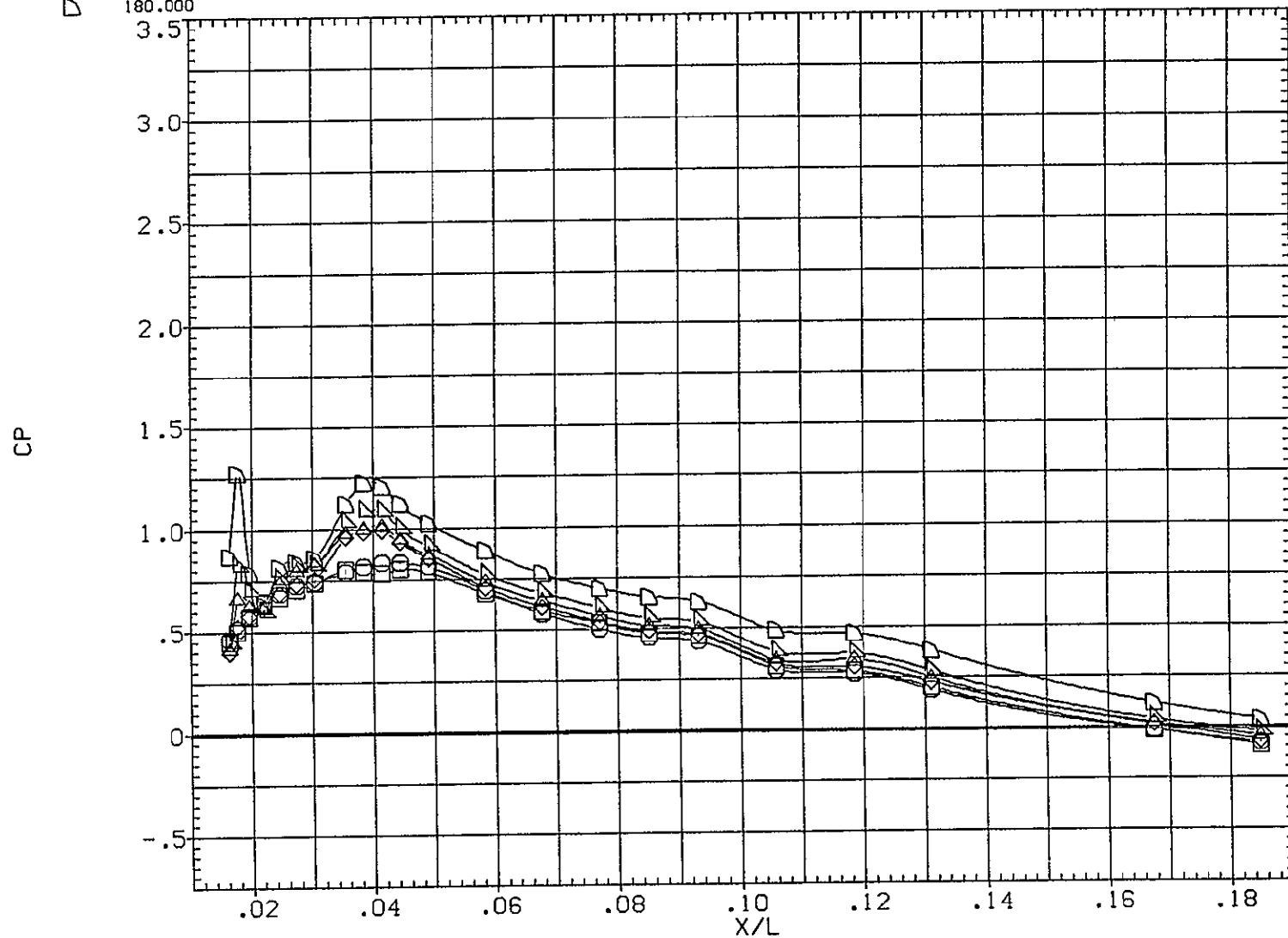
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

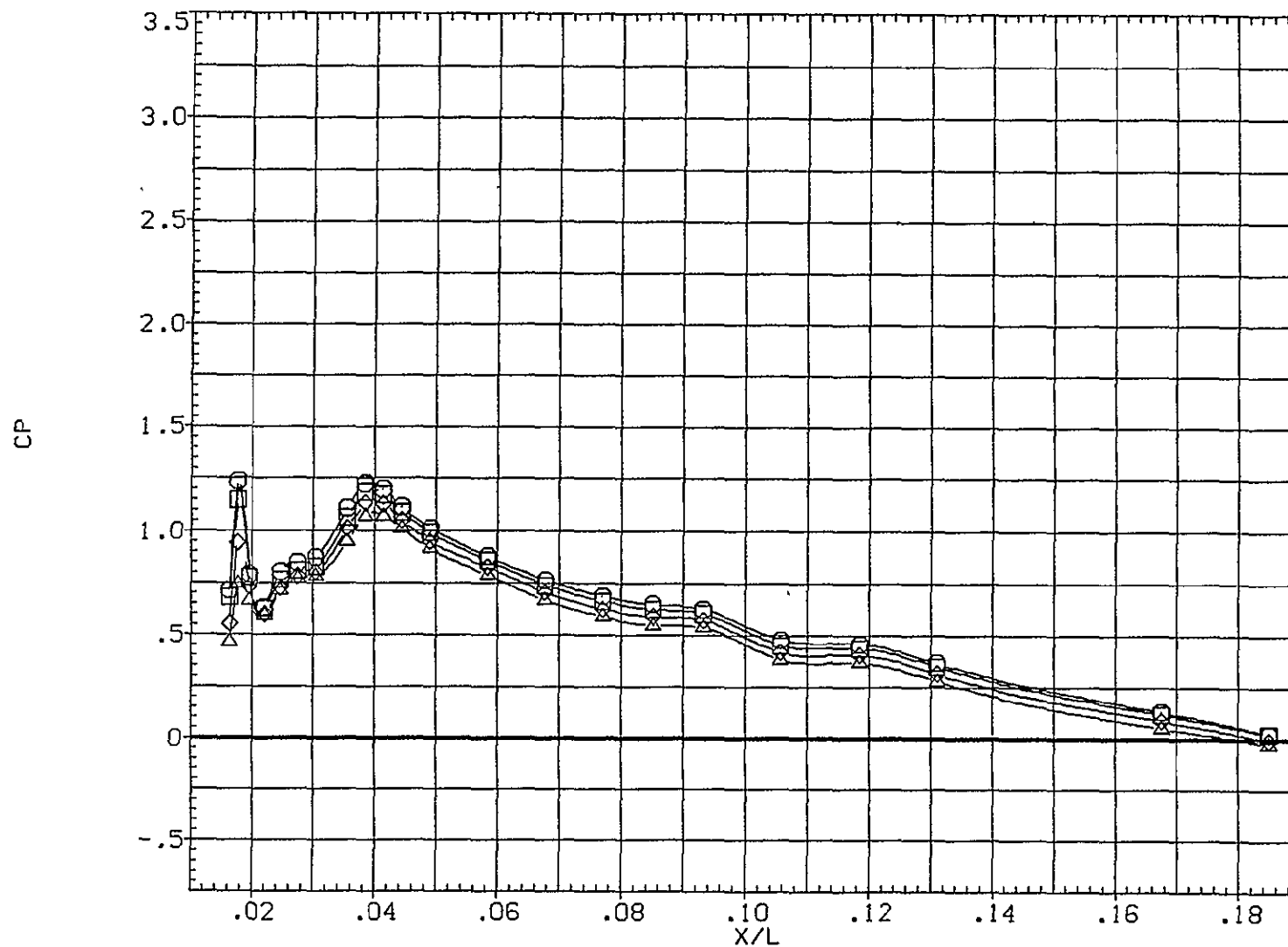
(B1G010)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	3.960	1.447	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◁	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	.001
○	202.500	3.960	1.447				
□	225.000						
◇	247.500						
△	270.000						



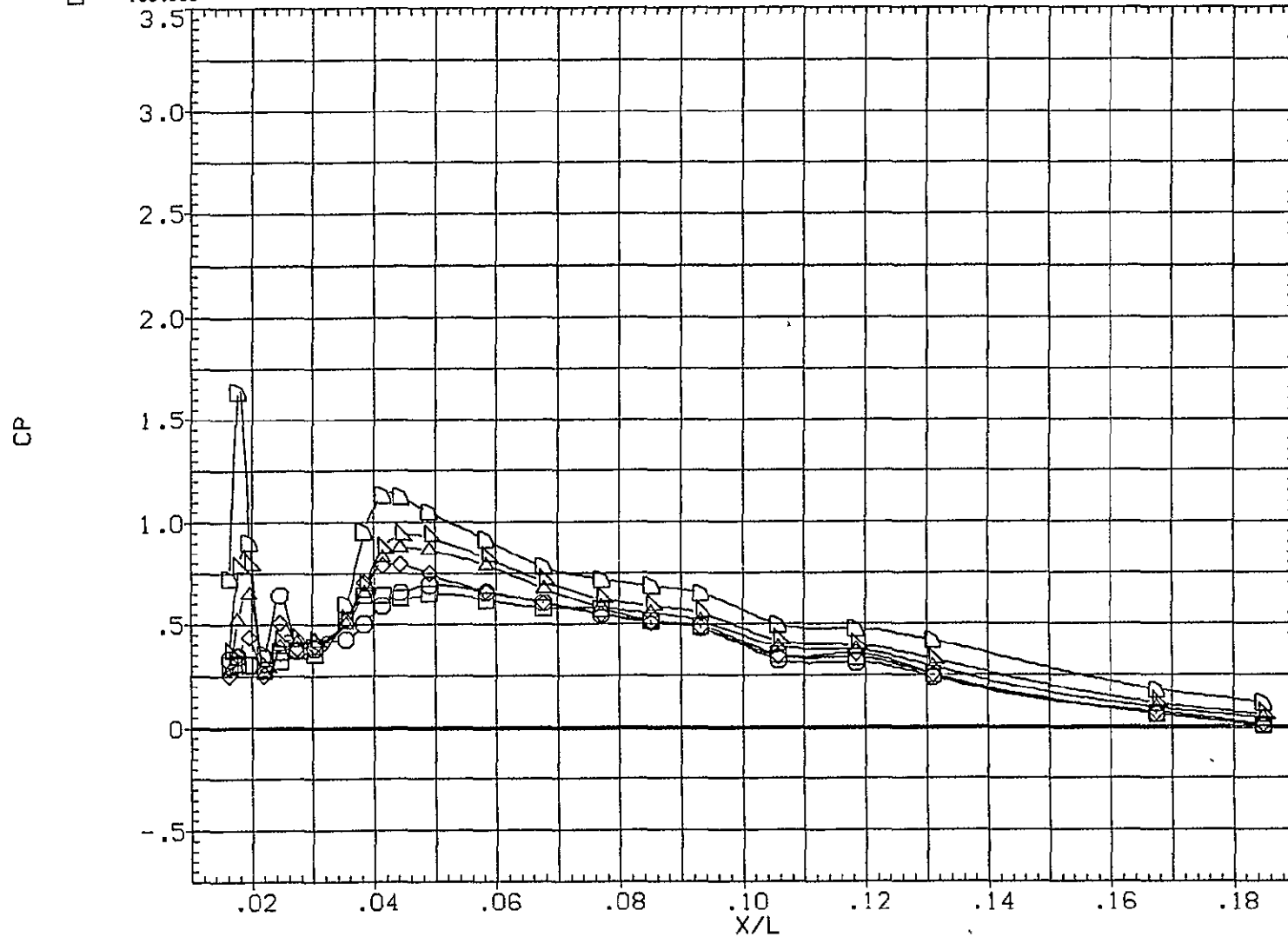
EFFECT OF LONGITUDINAL POSITION ON PRESSURE

C-4

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G010)

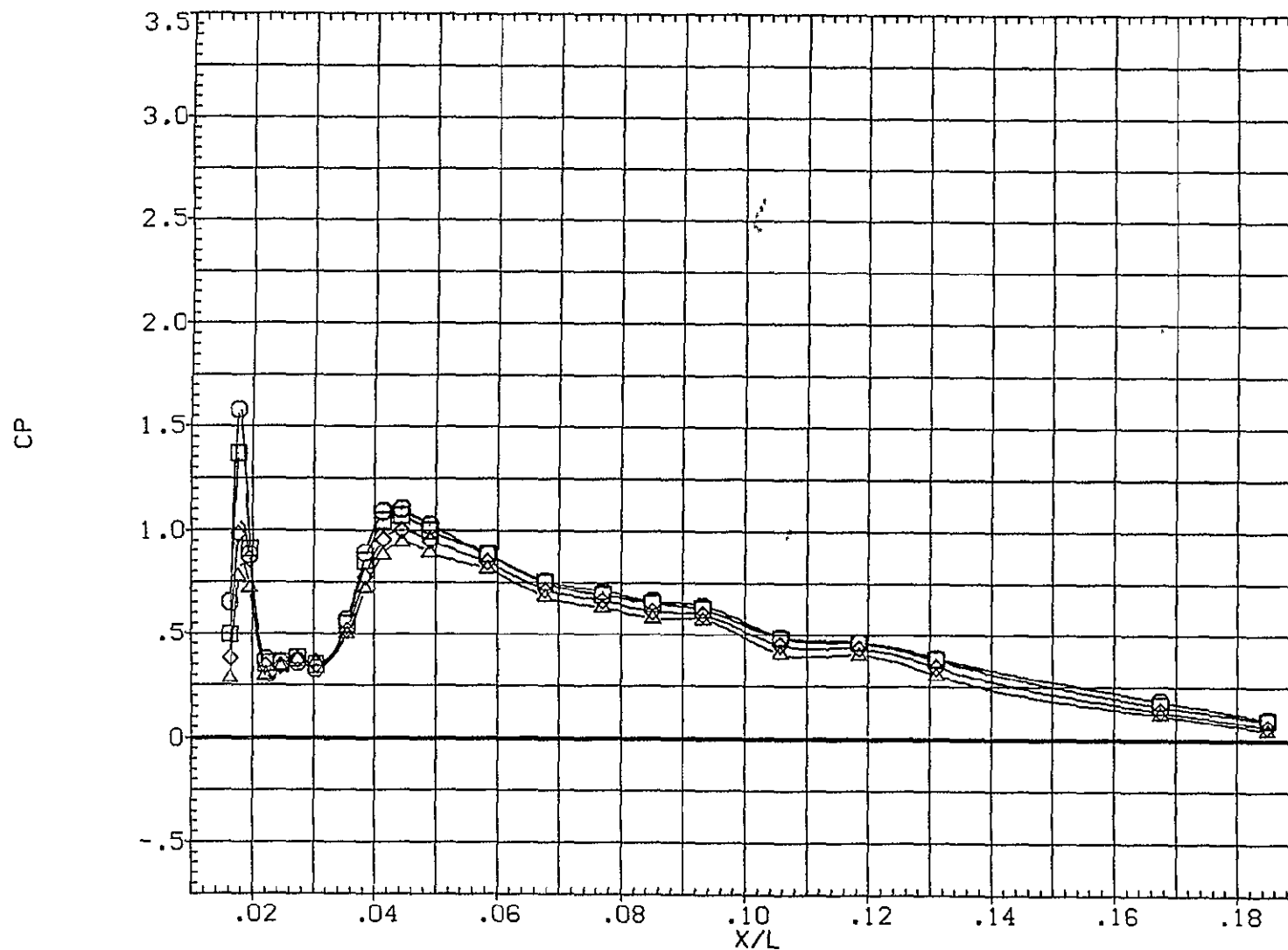
SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	
□	.000	3.960	1.954	.000	PHI	.000
◇	22.500					
△	45.000					
▽	67.500					
○	90.000					
◻	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH
○	202.500	3.960	1.954
□	225.000		
◇	247.500		
△	270.000		

PARAMETRIC VALUES		
BETA	PHI	
.000		.00

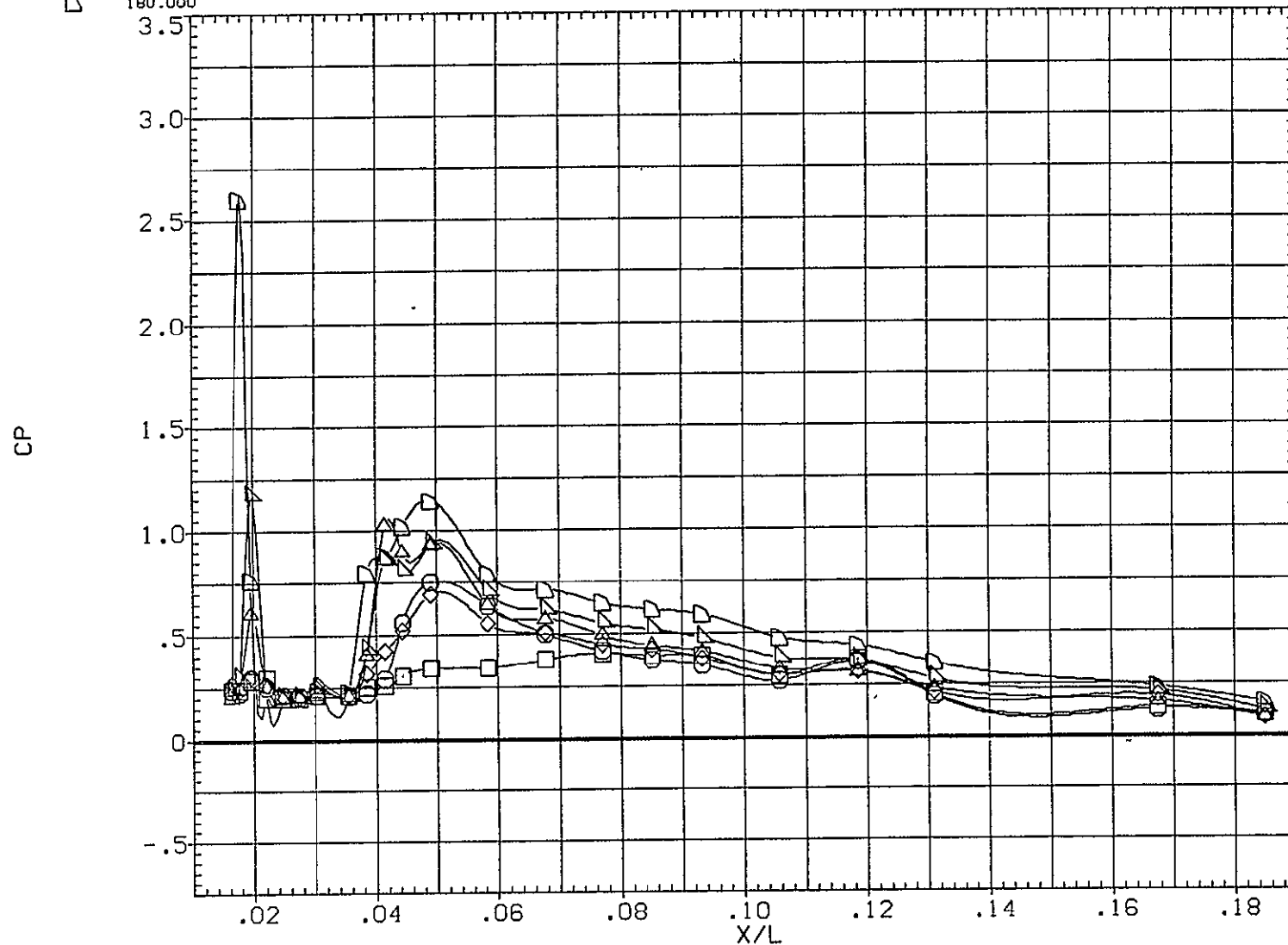


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G010)

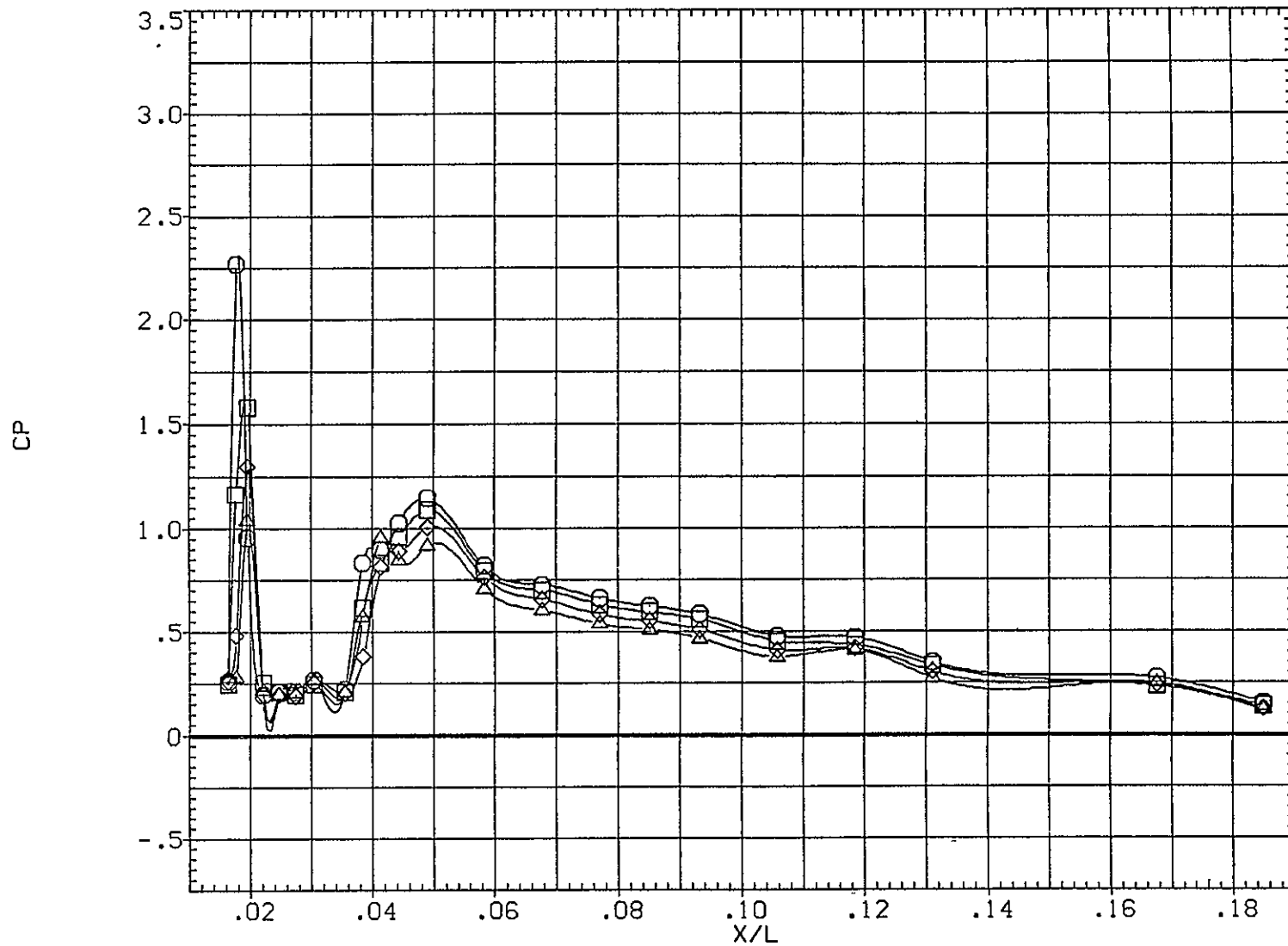
SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000 PHI	.000
○	.000	3.960	4.960			
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◁	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH
○	202.500	3.960	4.960
□	225.000		
◇	247.500		
△	270.000		

PARAMETRIC VALUES		
BETA	PHI	
.000		.0

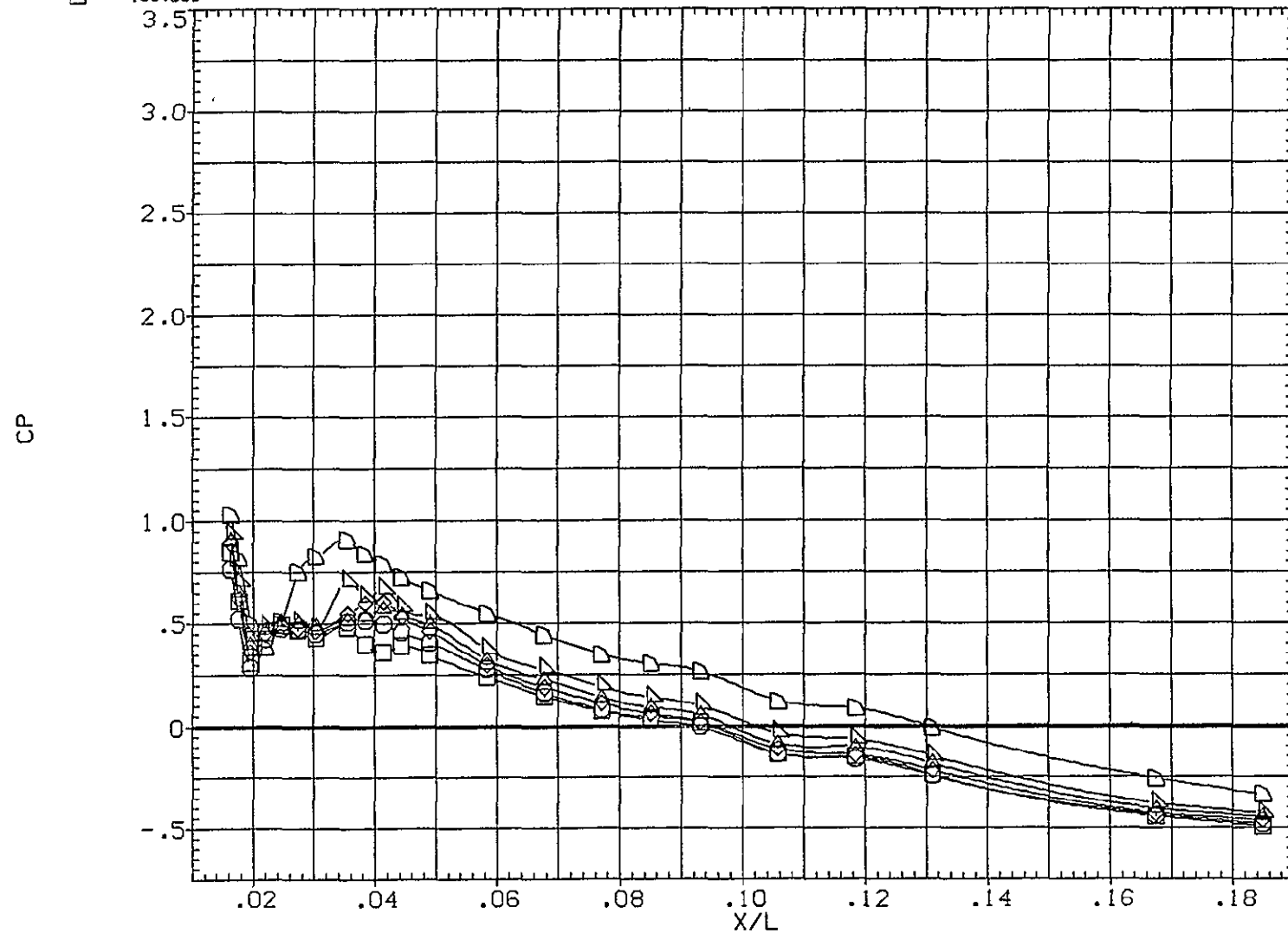


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G011)

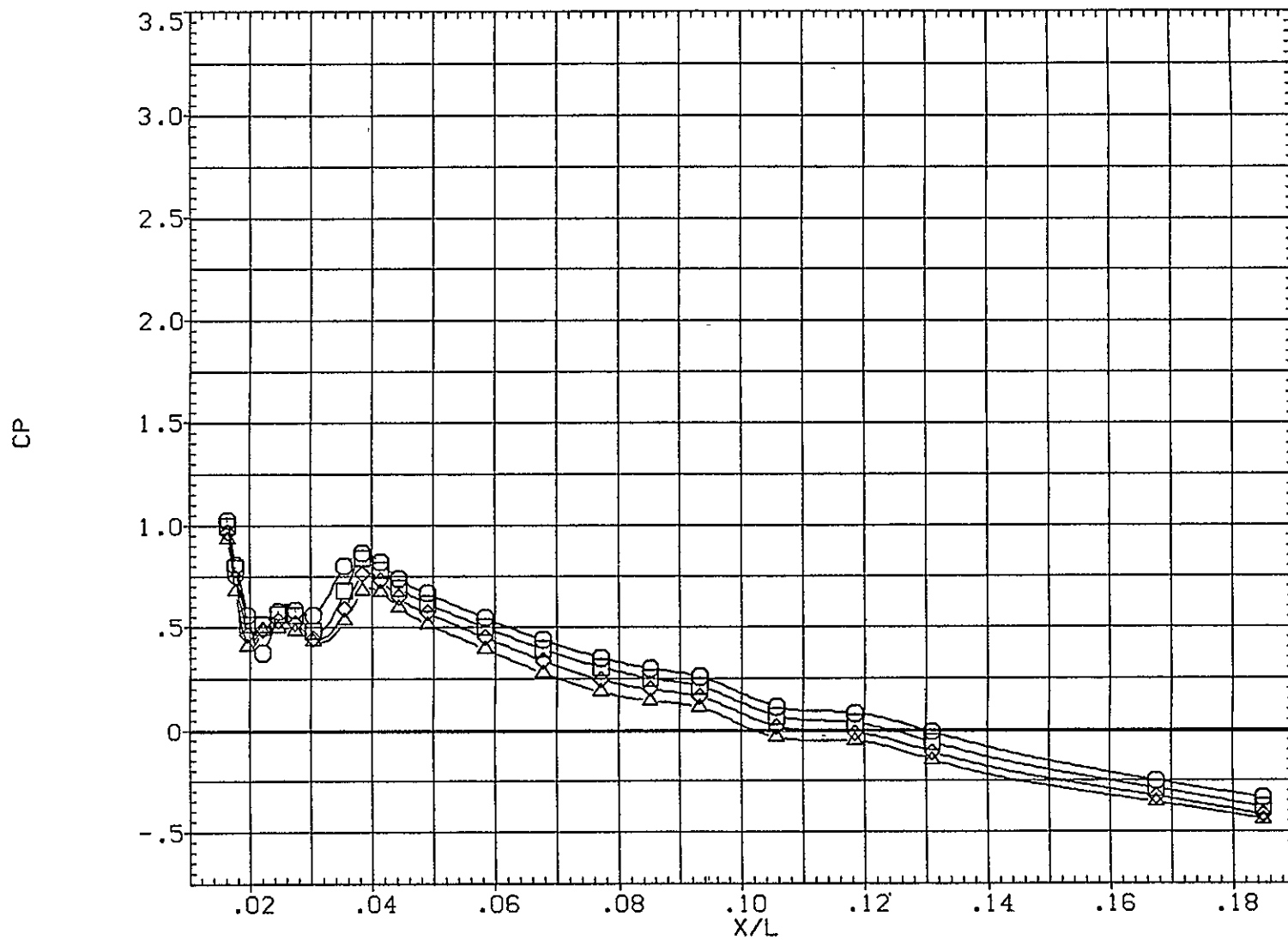
SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000	PHI
○	.000	4.980	.597			.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
◻	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH
○	202.500	4.980	.597
□	225.000		
◇	247.500		
△	270.000		

PARAMETRIC VALUES	
BETA	PHI
.000	.000



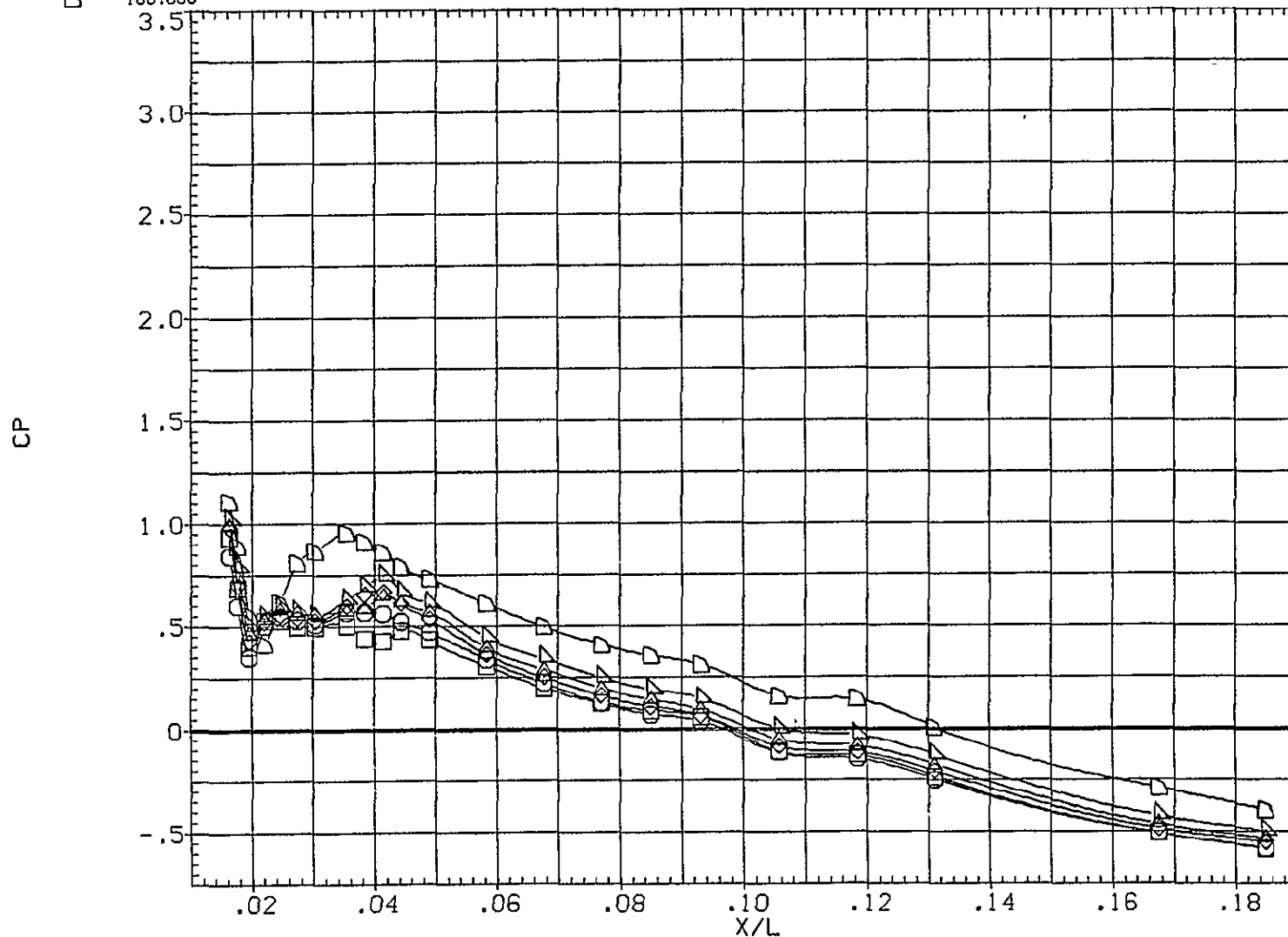
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

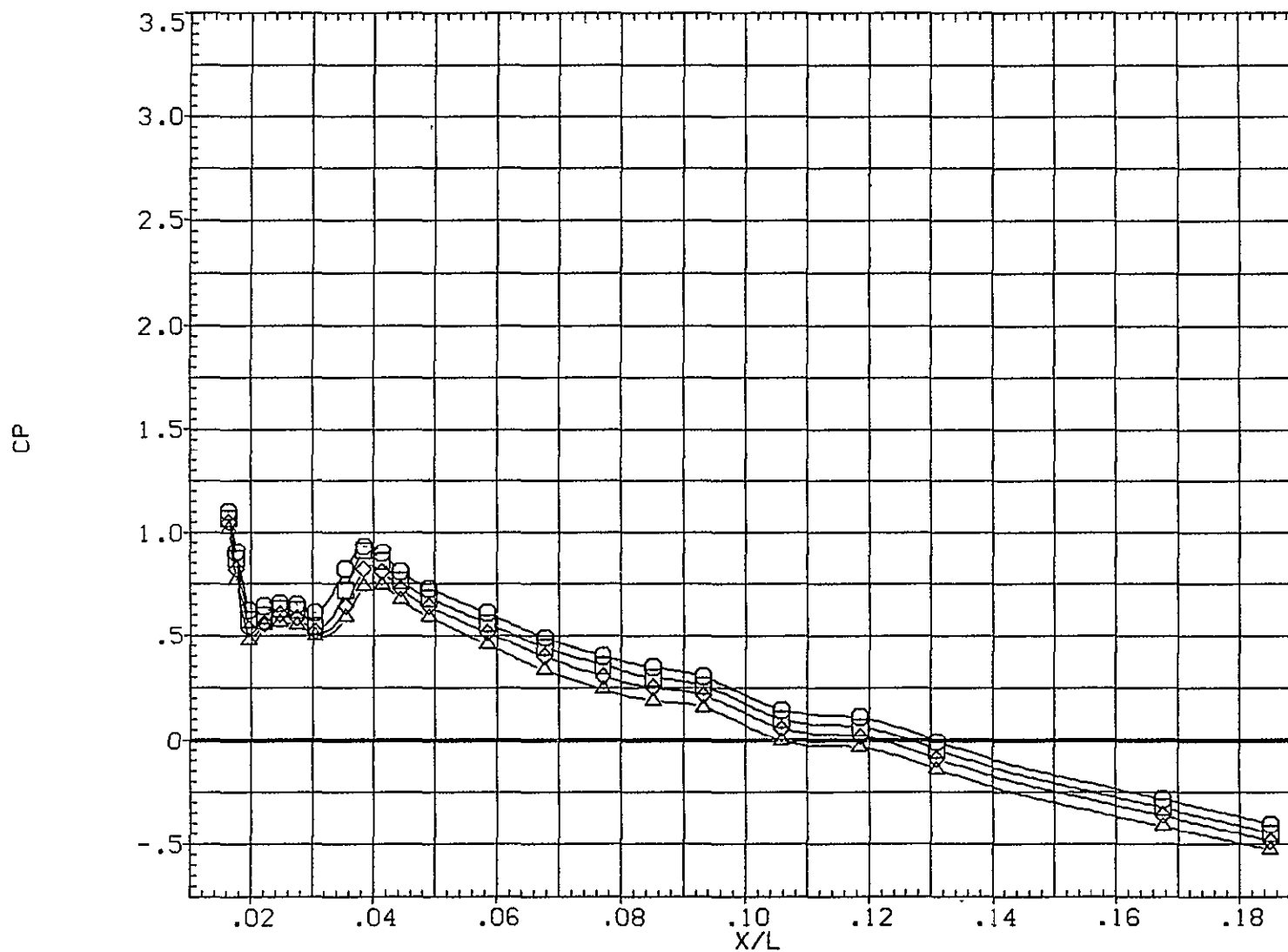
(B16011)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
	.000	4.980	.795	BETA	.000	PHI .000
○	22.500					
◊	45.000					
△	67.500					
▽	90.000					
◇	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	202.500	4.980	.795	.000	PHI
□	225.000				
◇	247.500				
△	270.000				

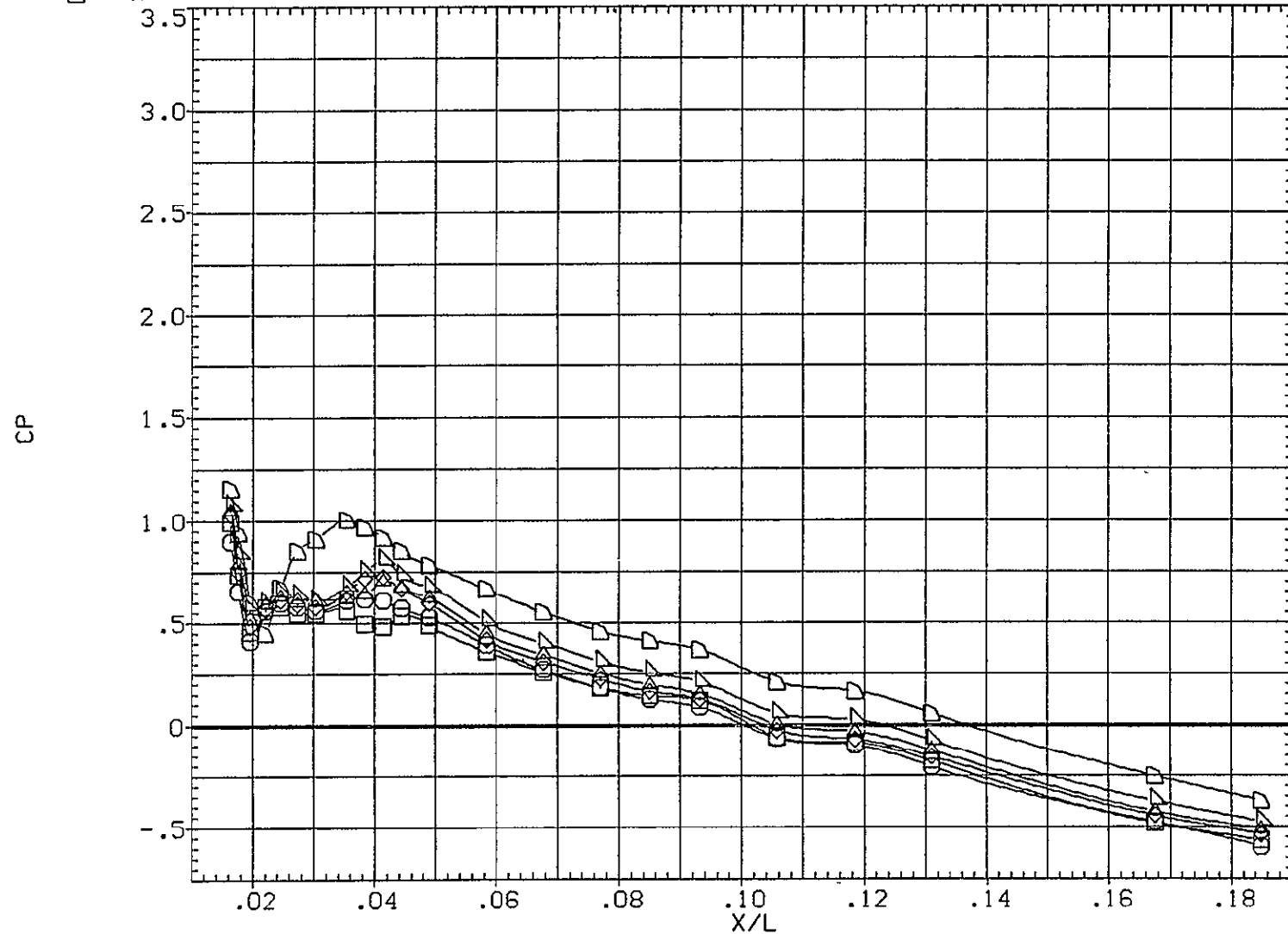


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G011)

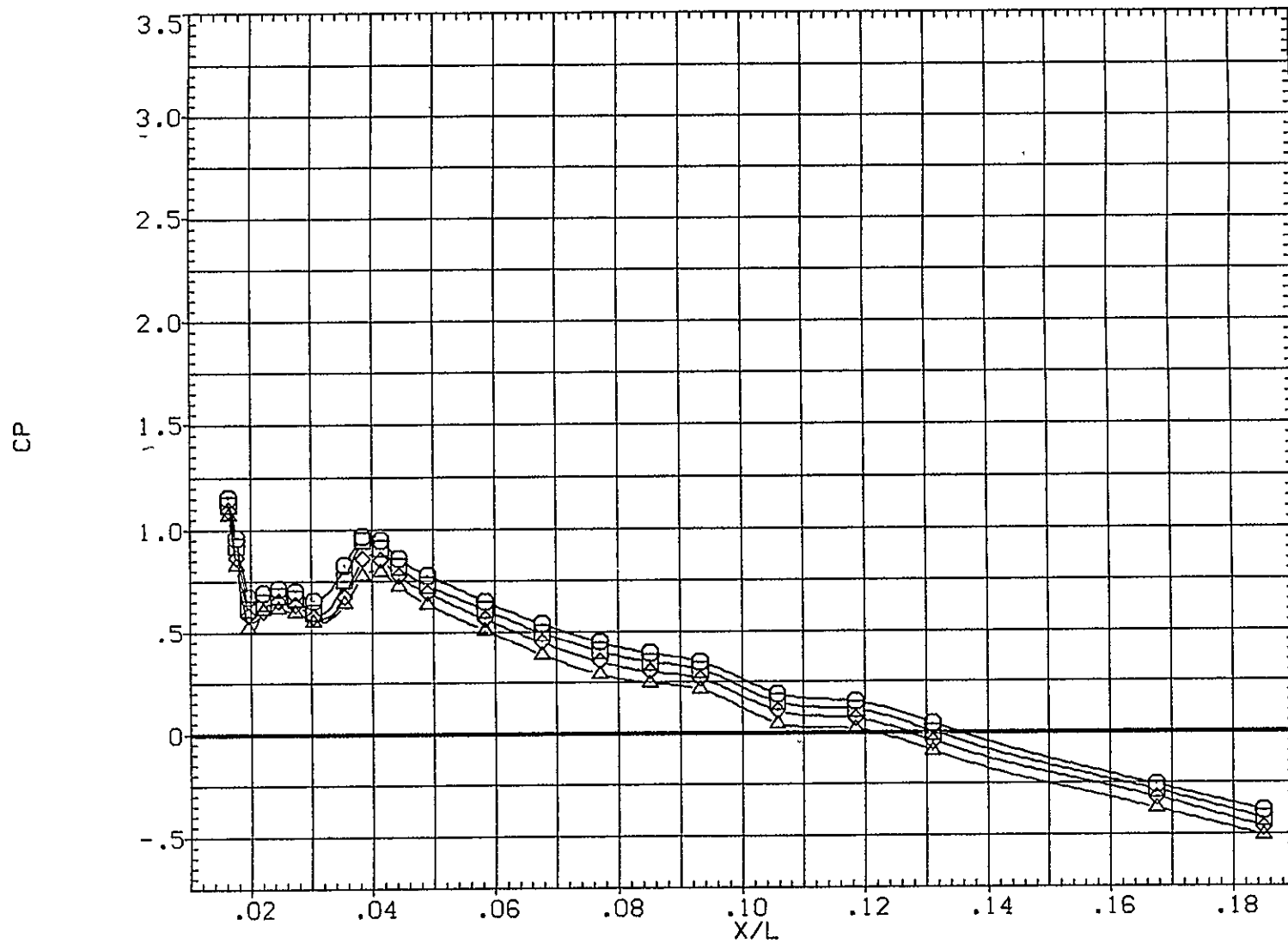
SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	.000	4.980	.898		.000		.000
□	22.500						
◇	45.000						
△	67.500						
▽	90.000						
▷	180.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH
○	202.500	4.980	.898
□	225.000		
◇	247.500		
△	270.000		

PARAMETRIC VALUES		
BETA	PHI	
.000		.00

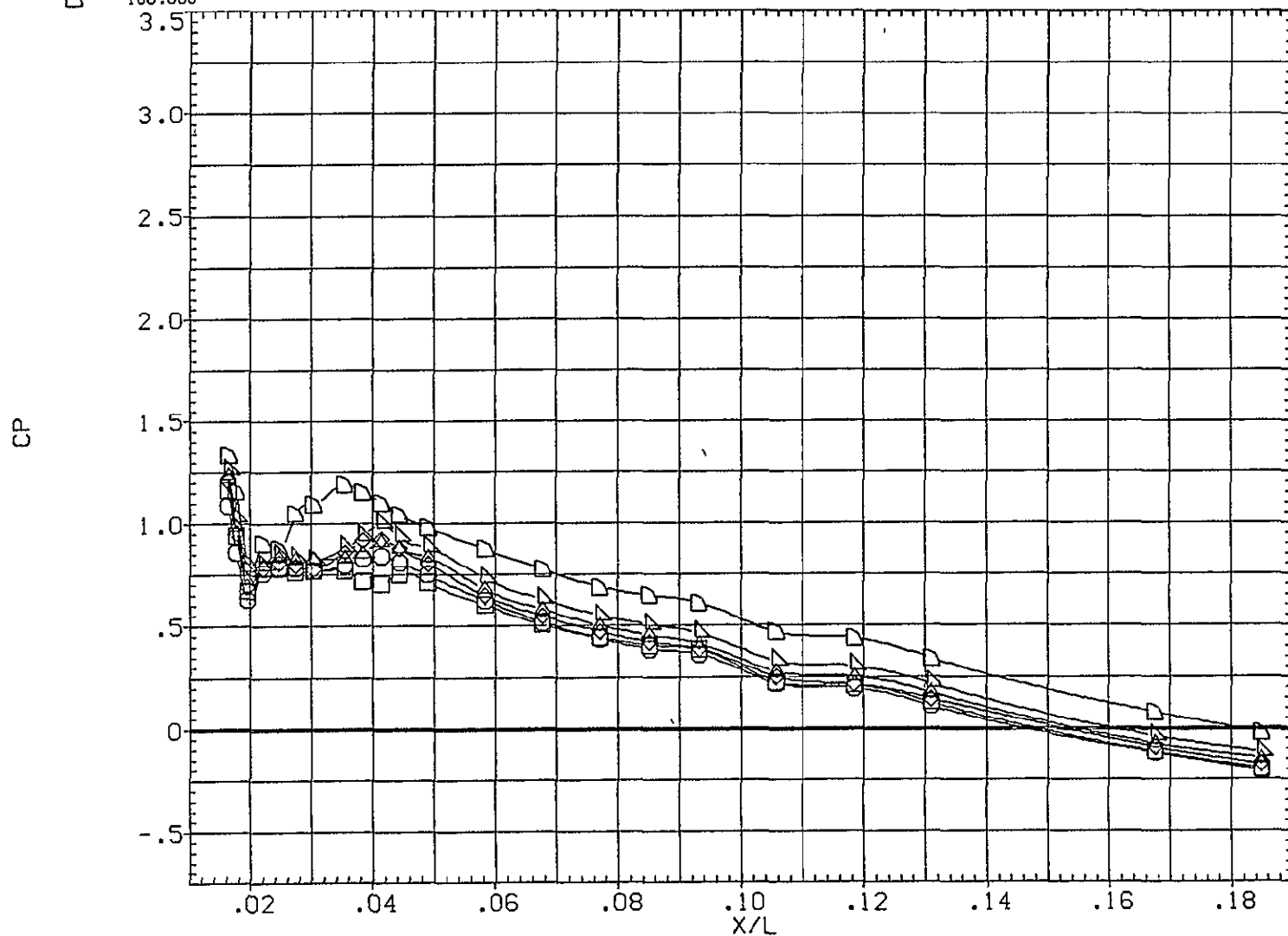


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(B1G011)

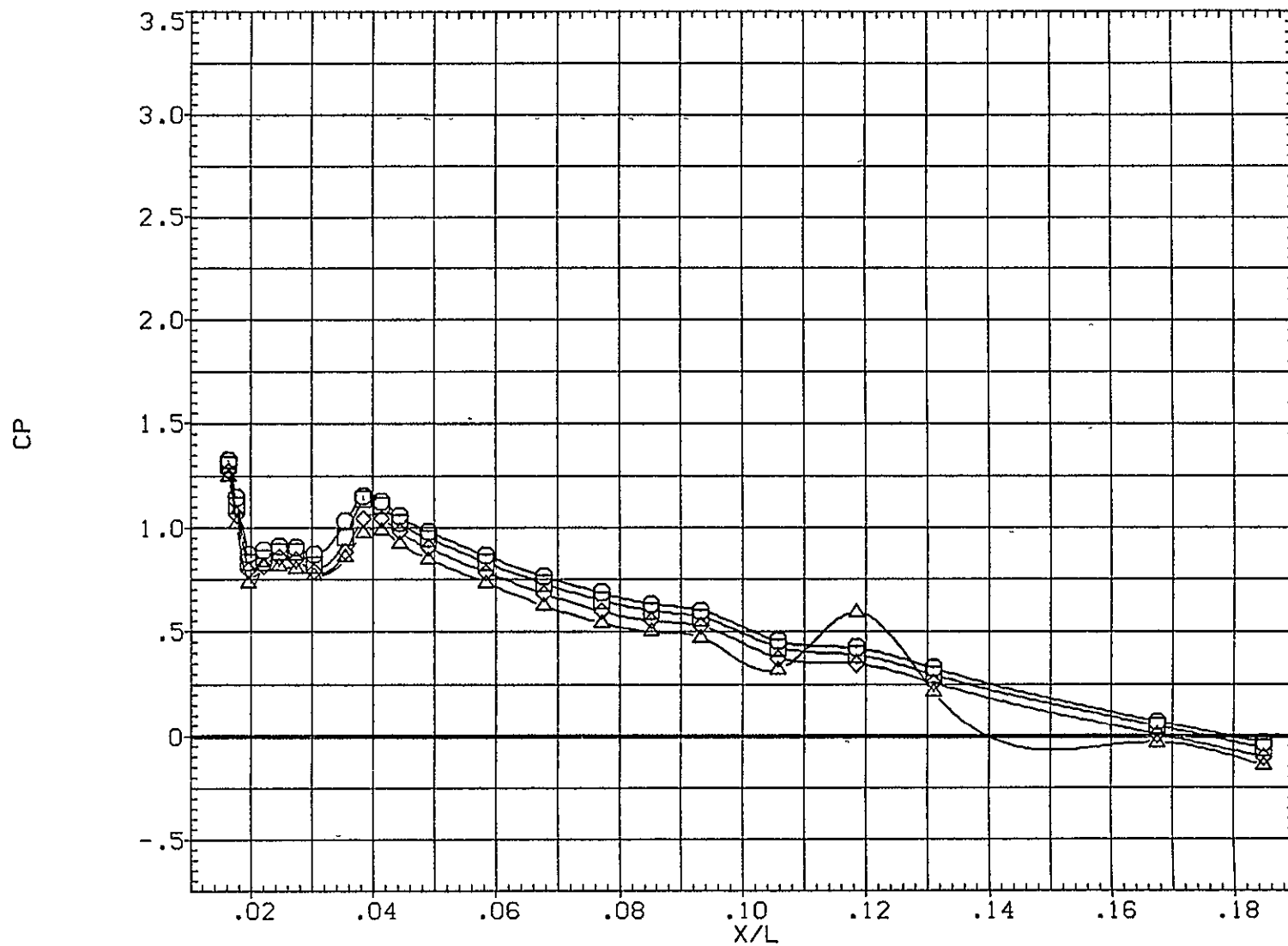
SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	000	4.980	1.188	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
▷	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH
○	202.500	4.980	1.188
□	225.000		
◇	247.500		
△	270.000		

PARAMETRIC VALUES		
BETA	.000	PHI
		.00

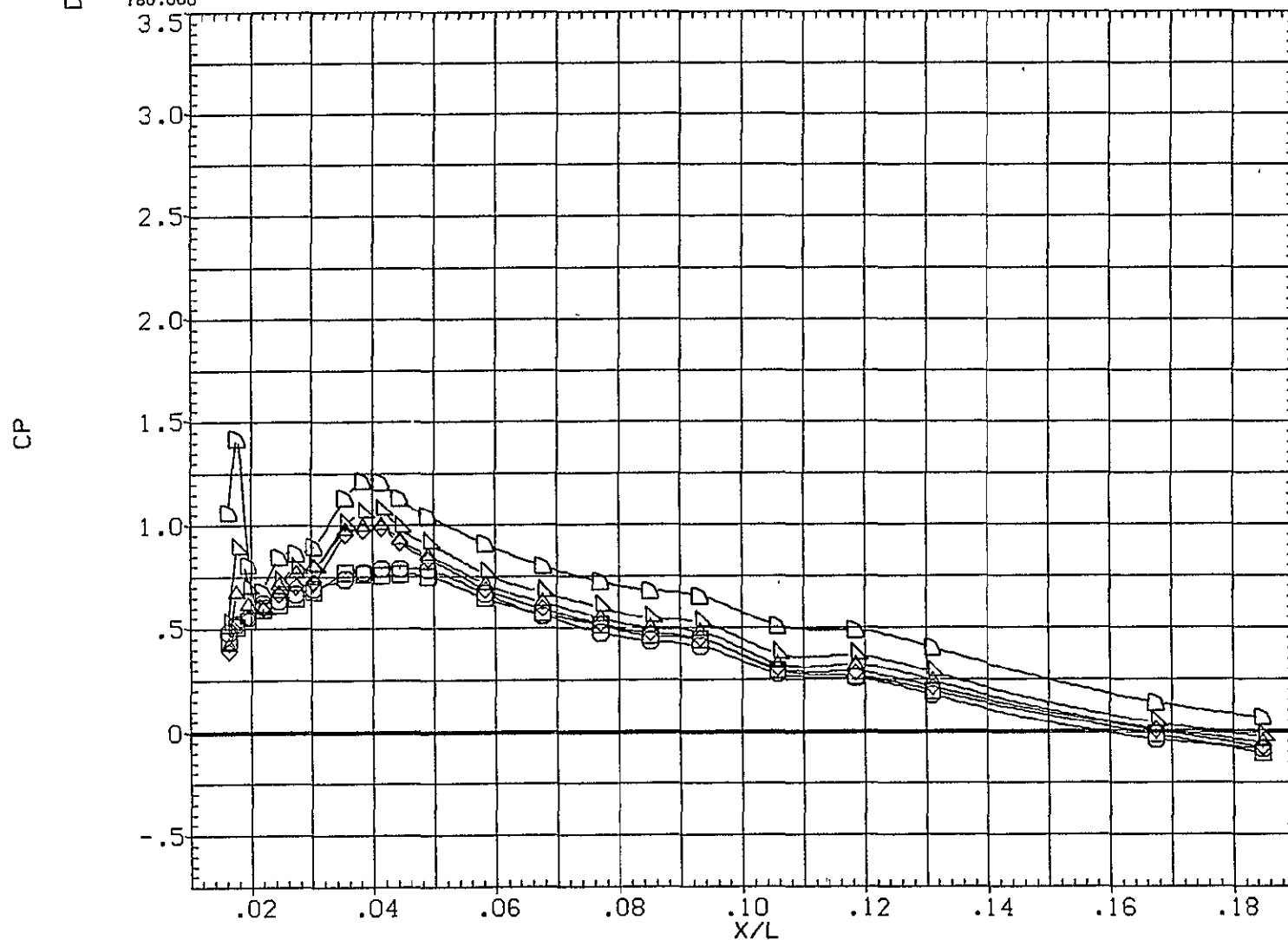


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

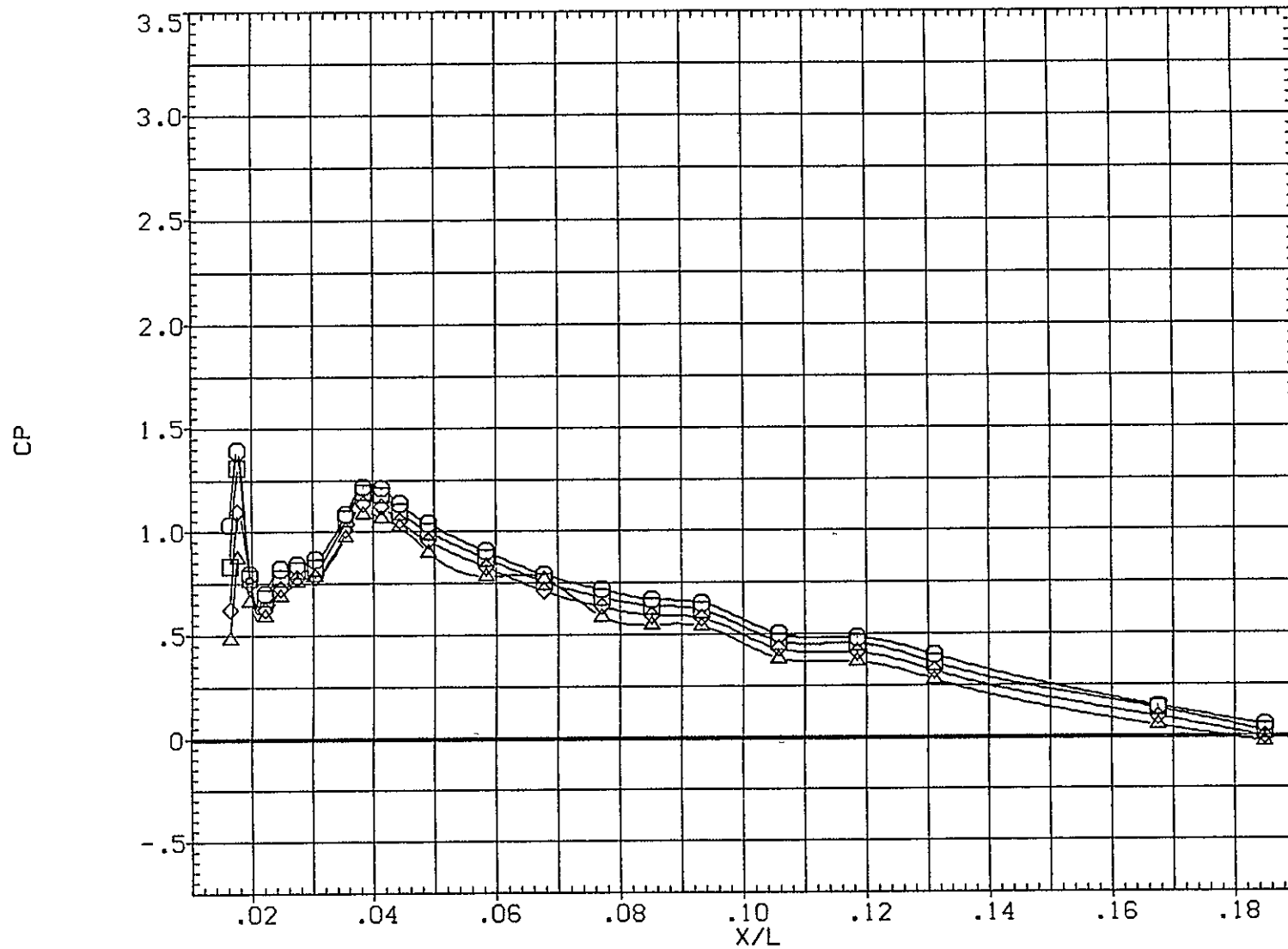
(B1G011)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES			
○	000	4.980	1.452	BETA	.000	PHI	.000
□	22.500						
◇	45.000						
△	67.500						
▽	90.000						
⬇	180.000						



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	202.500	4.980	1.452		PHI
□	225.000				
◇	247.500				
△	270.000				



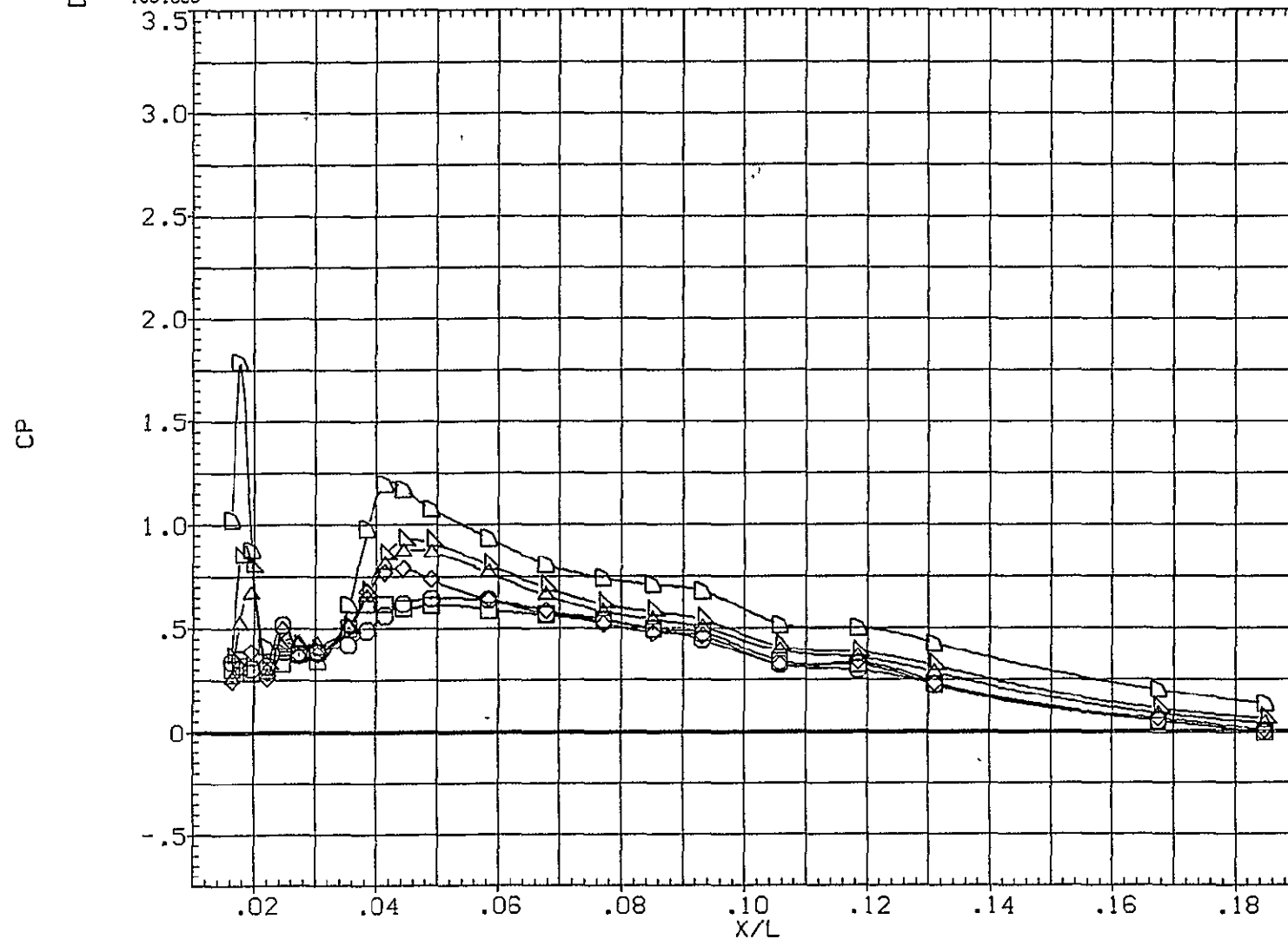
EFFECT OF LONGITUDINAL POSITION ON PRESSURE



MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

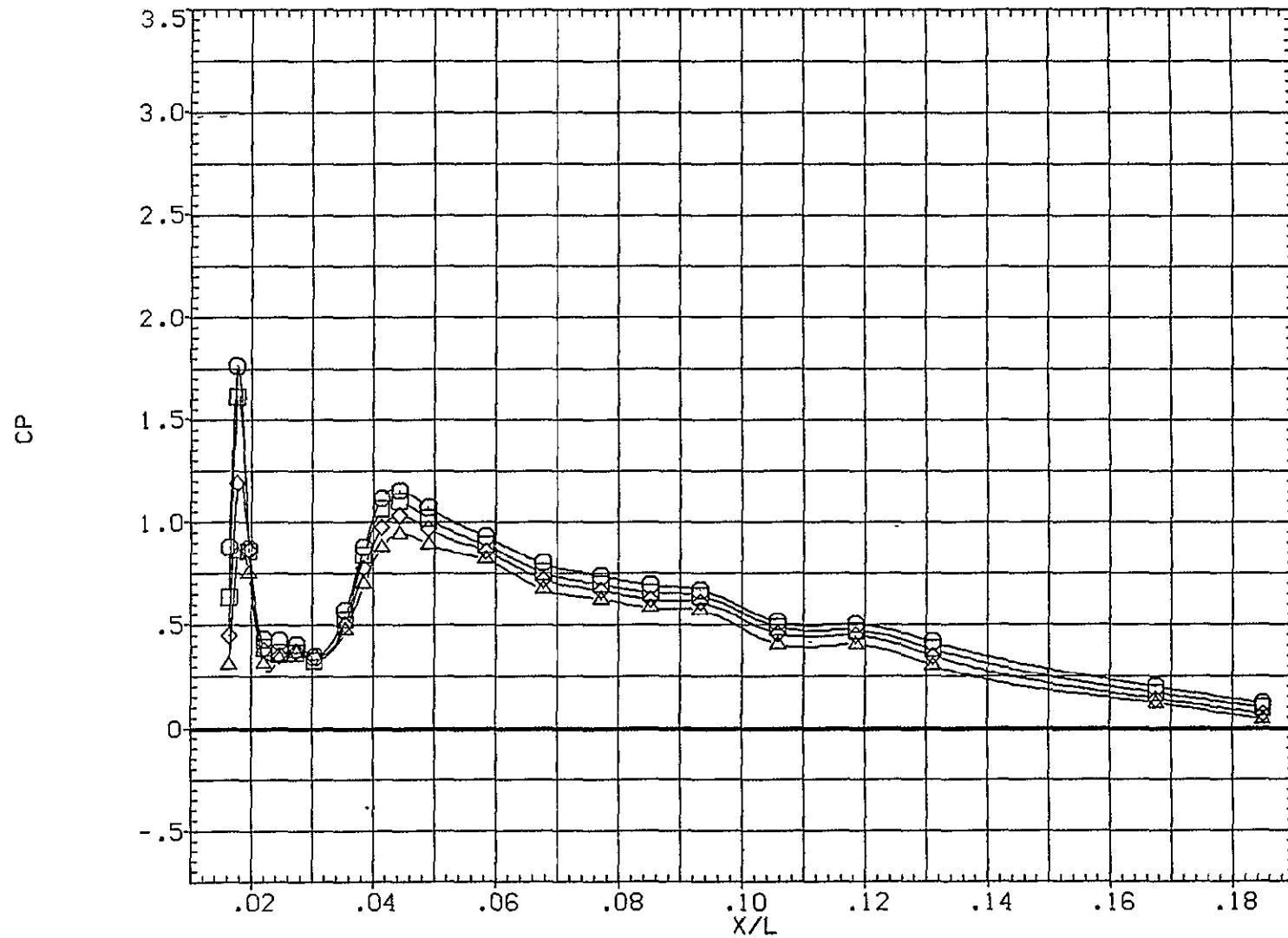
(B1G011)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	4.970	1.950	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
▷	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI	
○	202.500	4.970	1.950				
□	225.000						
◇	247.500						
△	270.000						

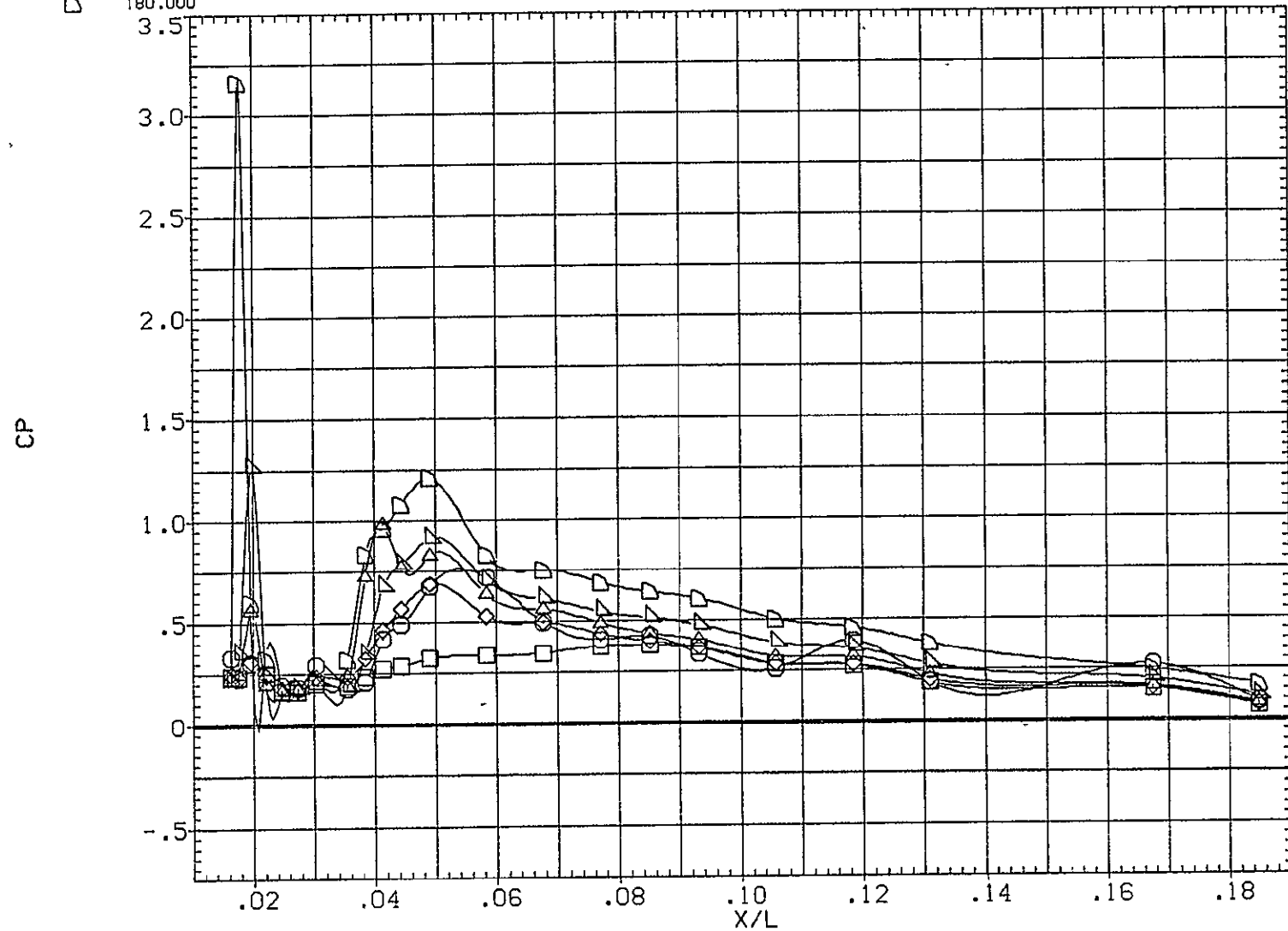


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

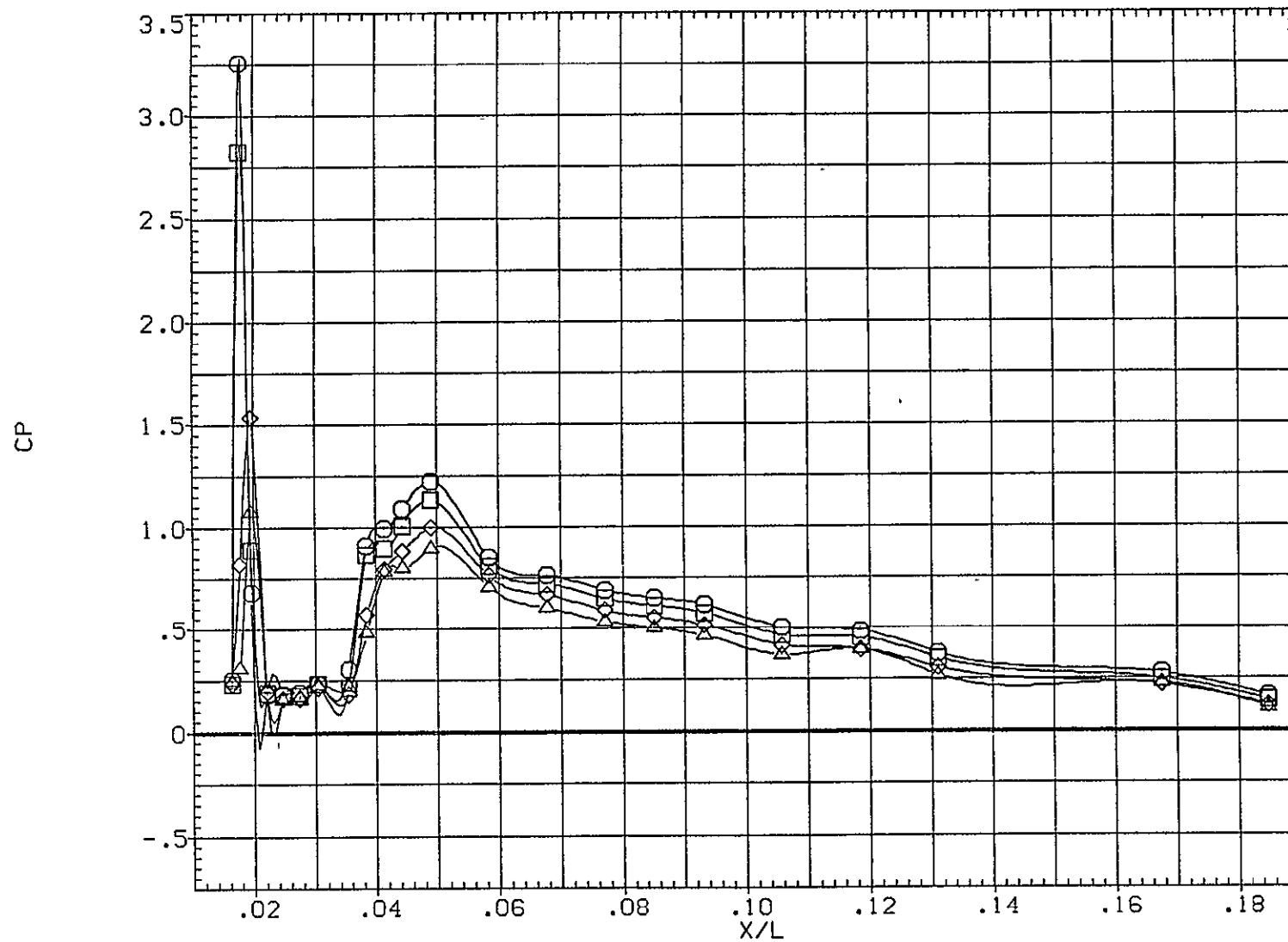
(B1G011)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	PHI	
○	.000	4.980	4.960	.000		.000
□	22.500					
◇	45.000					
△	67.500					
▽	90.000					
▷	180.000					



EFFECT OF LONGITUDINAL POSITION ON PRESSURE

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES	PHI
○	202.500	4.980	4.960			
□	225.000					
◇	247.500					
△	270.000					

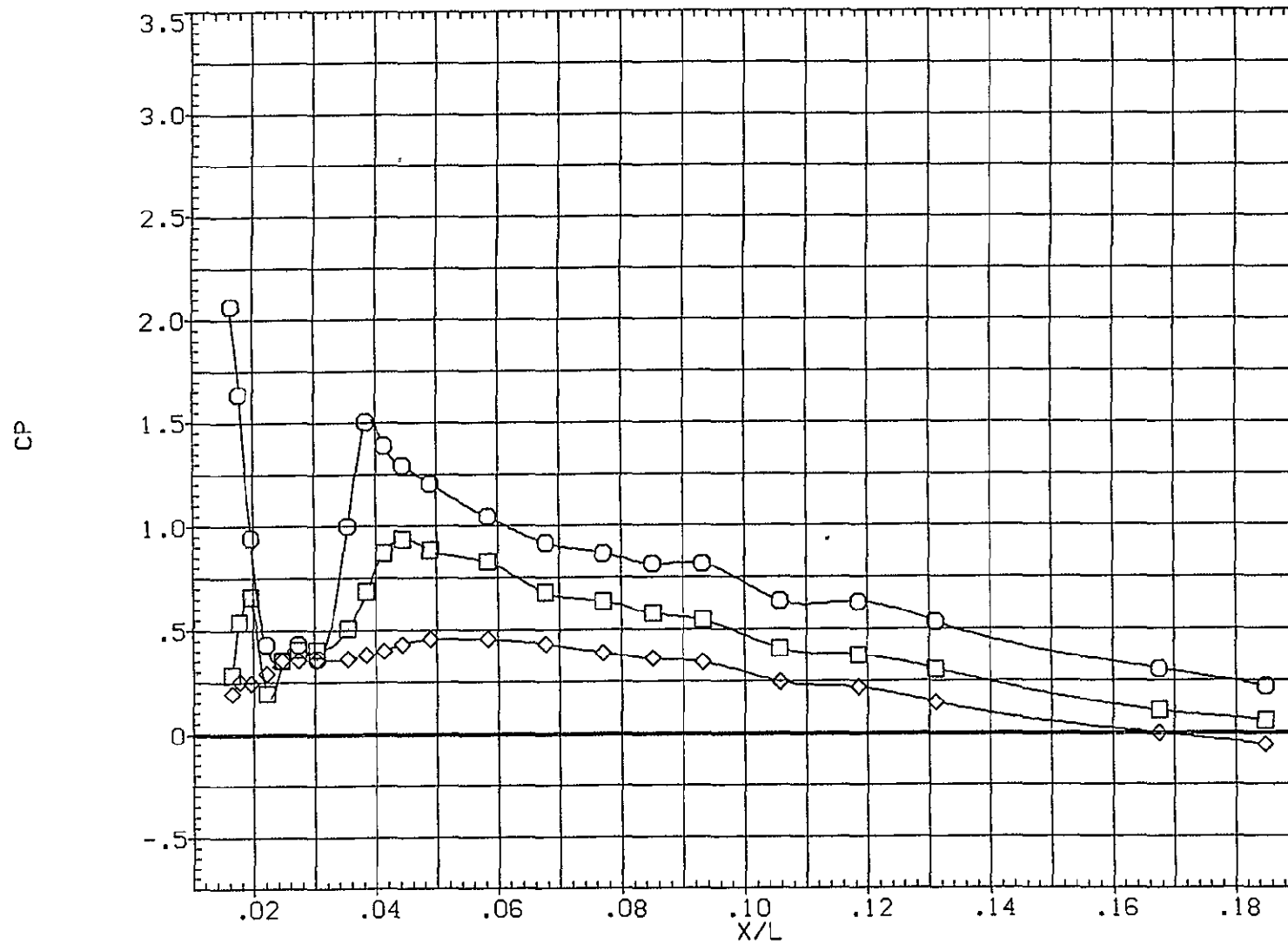


EFFECT OF LONGITUDINAL POSITION ON PRESSURE

## MSFC TWT 609 (TA3F) ET NOSE WITH NOSE CAP

(A1G006)

SYMBOL	ALPHA	THETA	MACH	BETA	PARAMETRIC VALUES	THETA
○	-9.960	.000	1.961	.000		.000
□	-.040			.000		
◇	9.860					



EFFECT OF ANGLE OF ATTACK ON PRESSURE

SYMBOL

○  
□  
◇

ALPHA

-9.950

-.040

9.880

THETA

.000

MACH

2.990

BETA

PHI

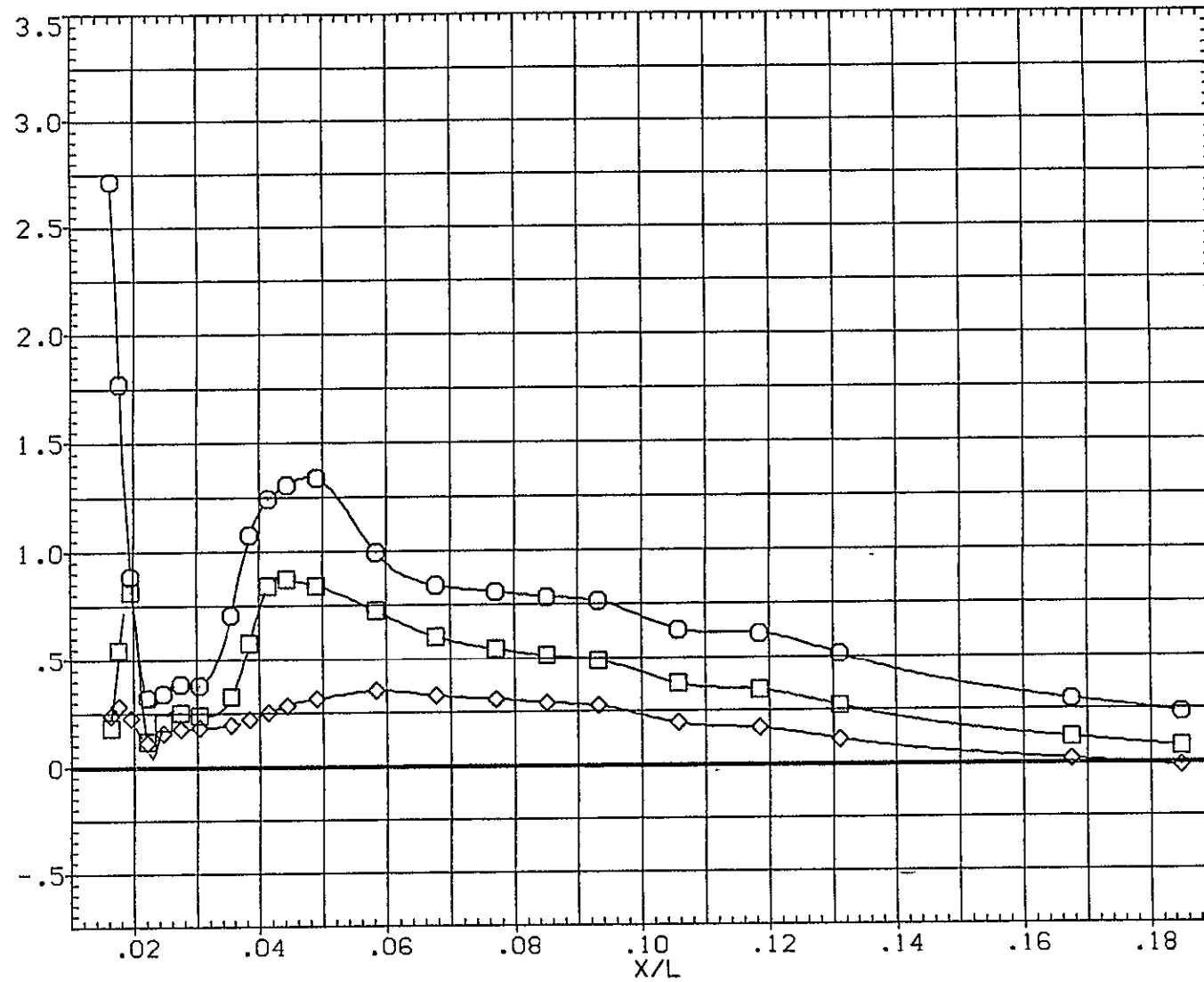
PARAMETRIC VALUES

.000

THETA

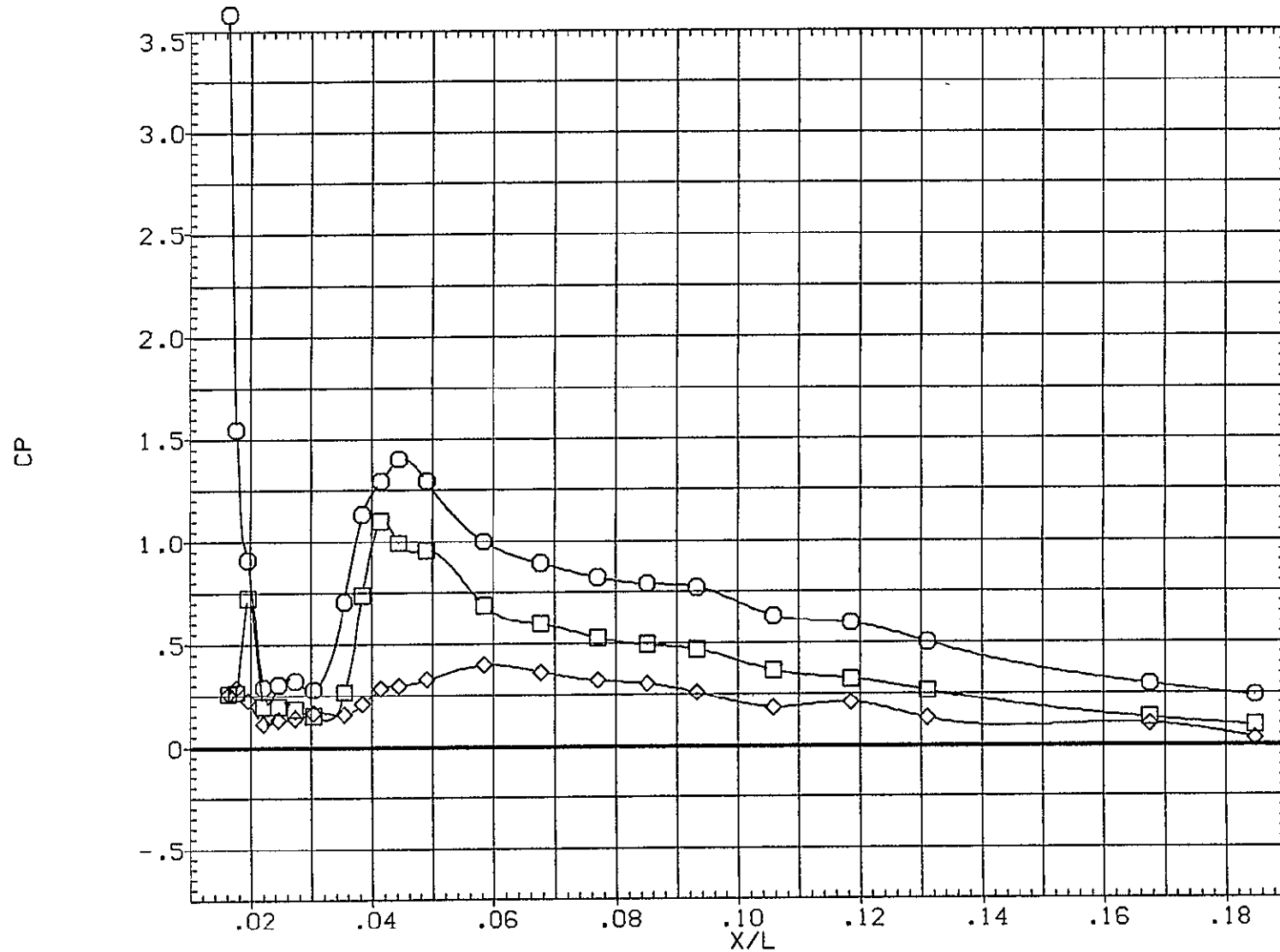
.0

CP



EFFECT OF ANGLE OF ATTACK ON PRESSURE

SYMBOL	ALPHA	THETA	MACH	PARAMETRIC VALUES		
				BETA	THETA	
○	-9.940	.000	4.000	PHI	.000	.000
□	-.040					
◇	9.860					



EFFECT OF ANGLE OF ATTACK ON PRESSURE

SYMBOL

○  
□  
◇

ALPHA

-9 940

- 040

9 880

THETA

.000

MACH

4.960

BETA

PHI

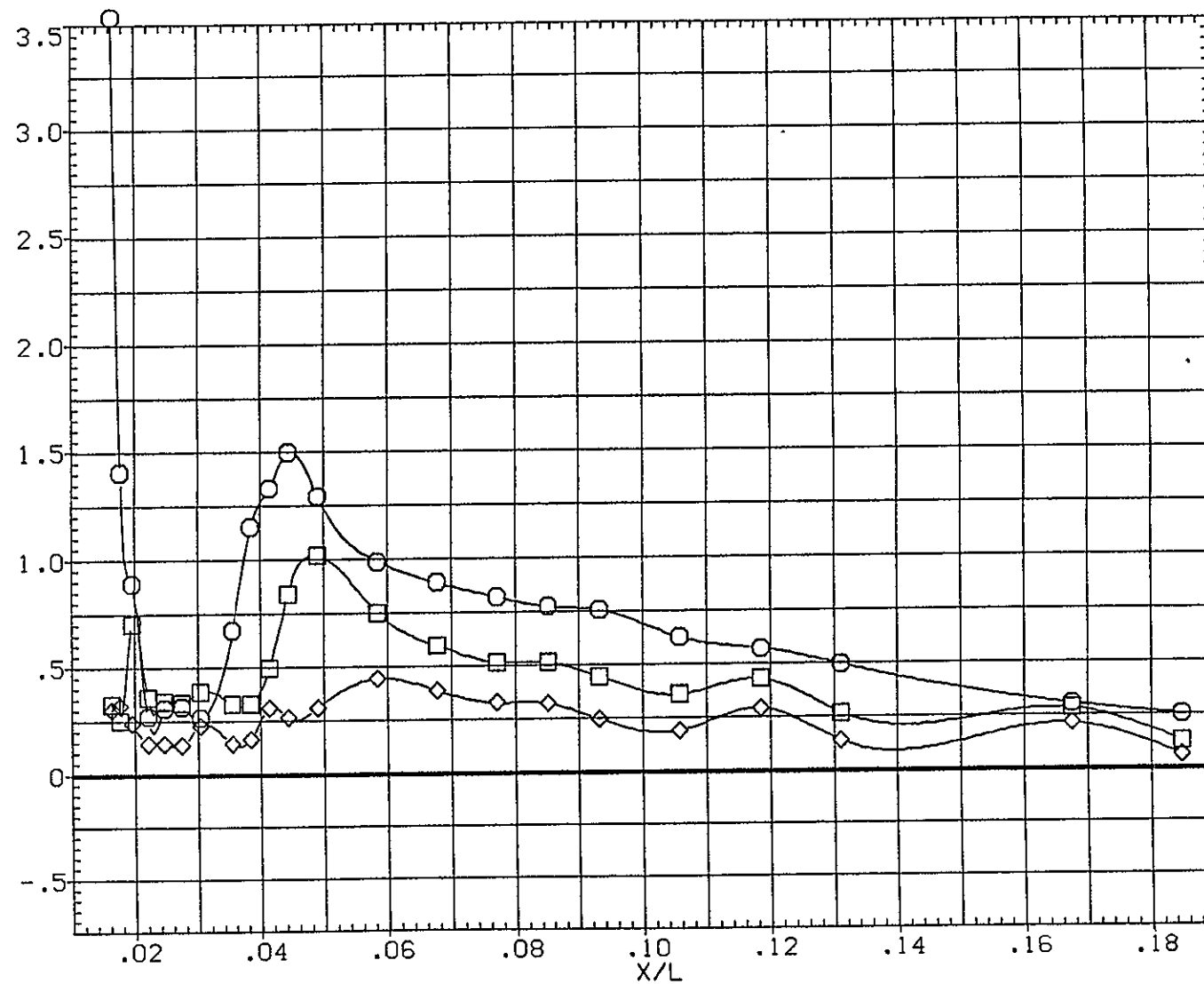
PARAMETRIC VALUES

.000

THETA

.000

CP

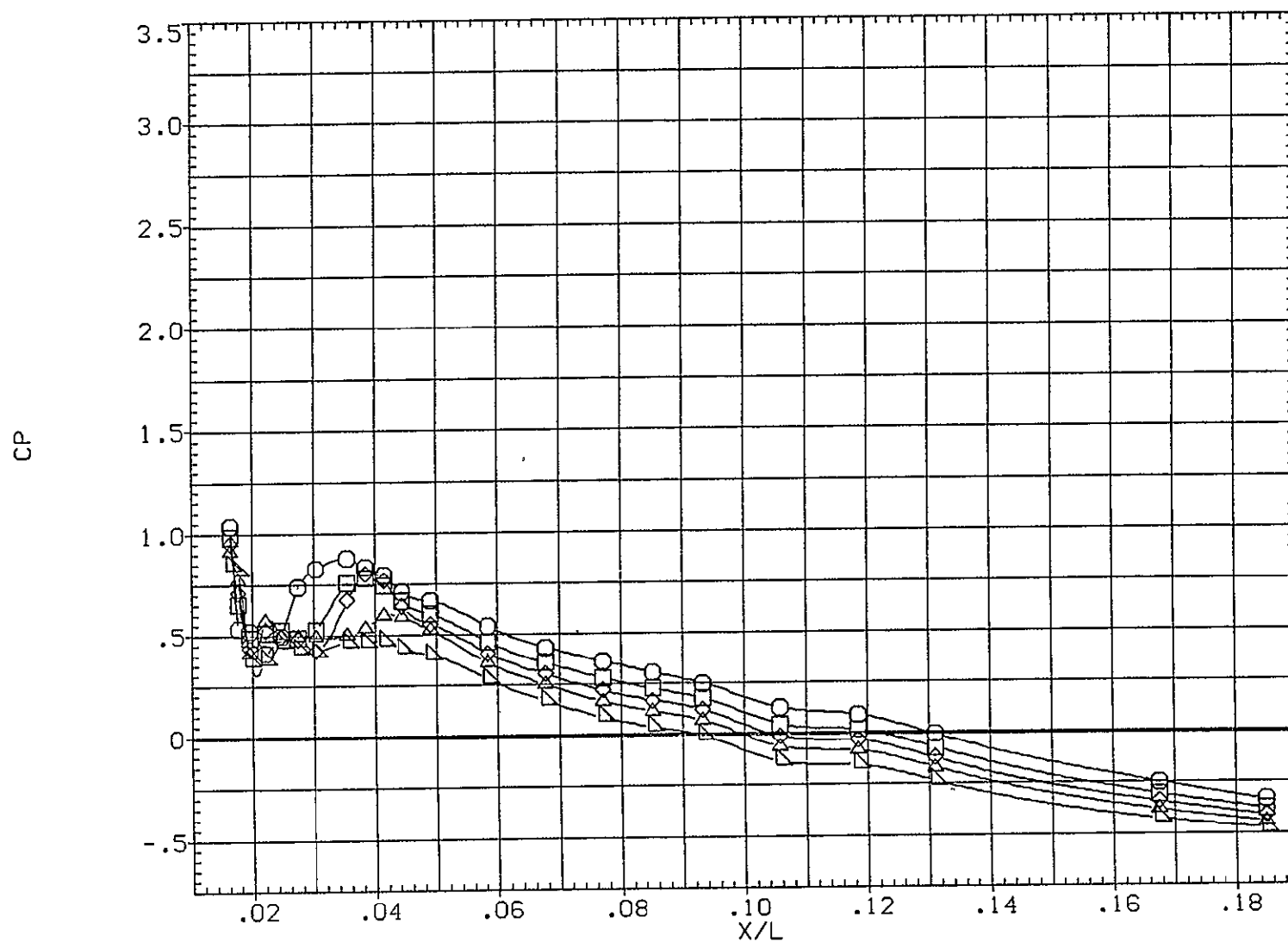


EFFECT OF ANGLE OF ATTACK ON PRESSURE



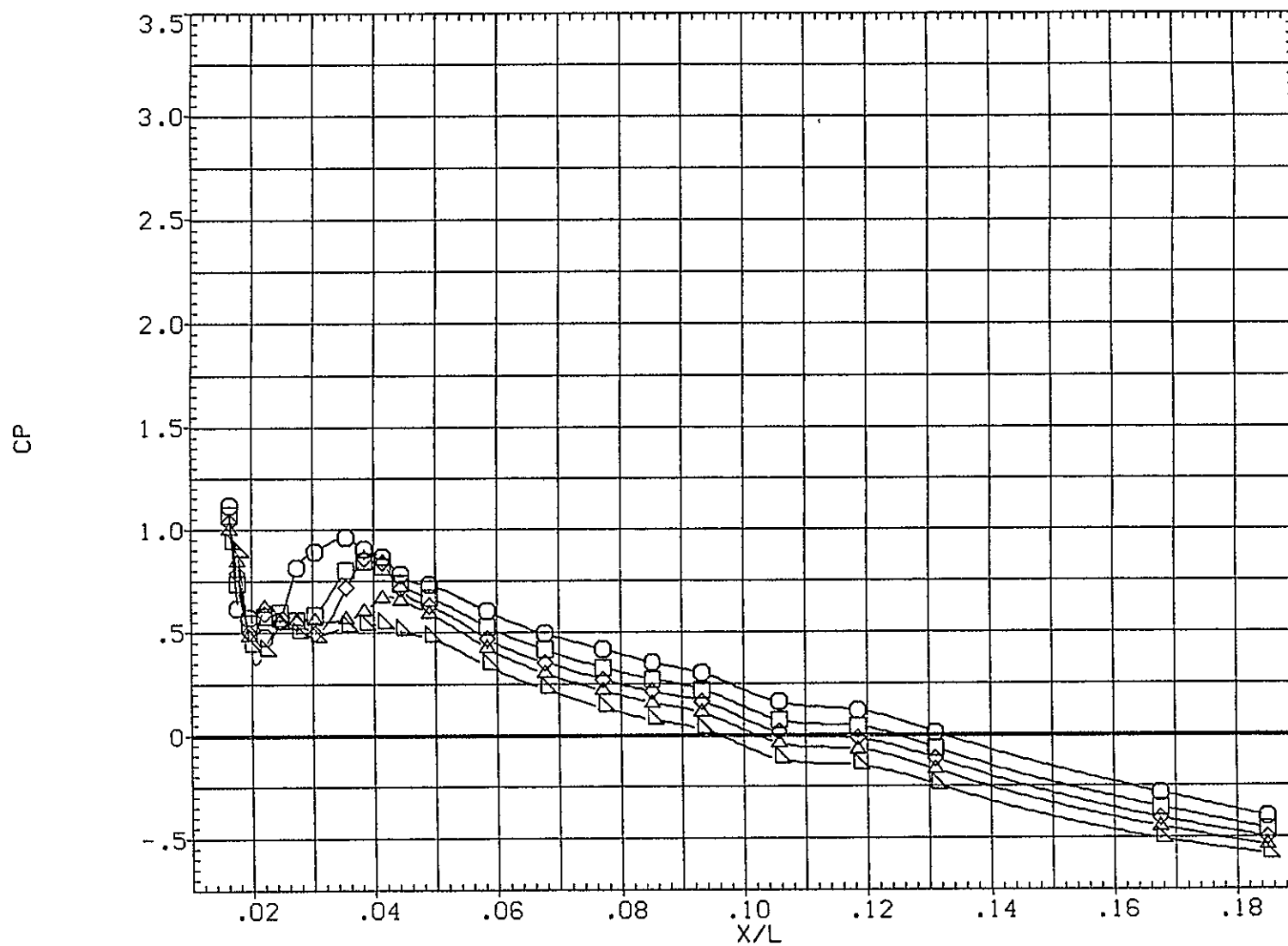
MSFC TWT 609 (TA3F) ET NOSE W/O LIGHTNING ROD (A1G117)

SYMBOL	ALPHA	THETA	MACH	BETA	PARAMETRIC VALUES	
	-5.040	.000	.597	.000	THETA	.000
	-2.040			PHI	.000	
	-.040					
	1.960					
▽	4.960					



EFFECT OF ANGLE OF ATTACK ON PRESSURE

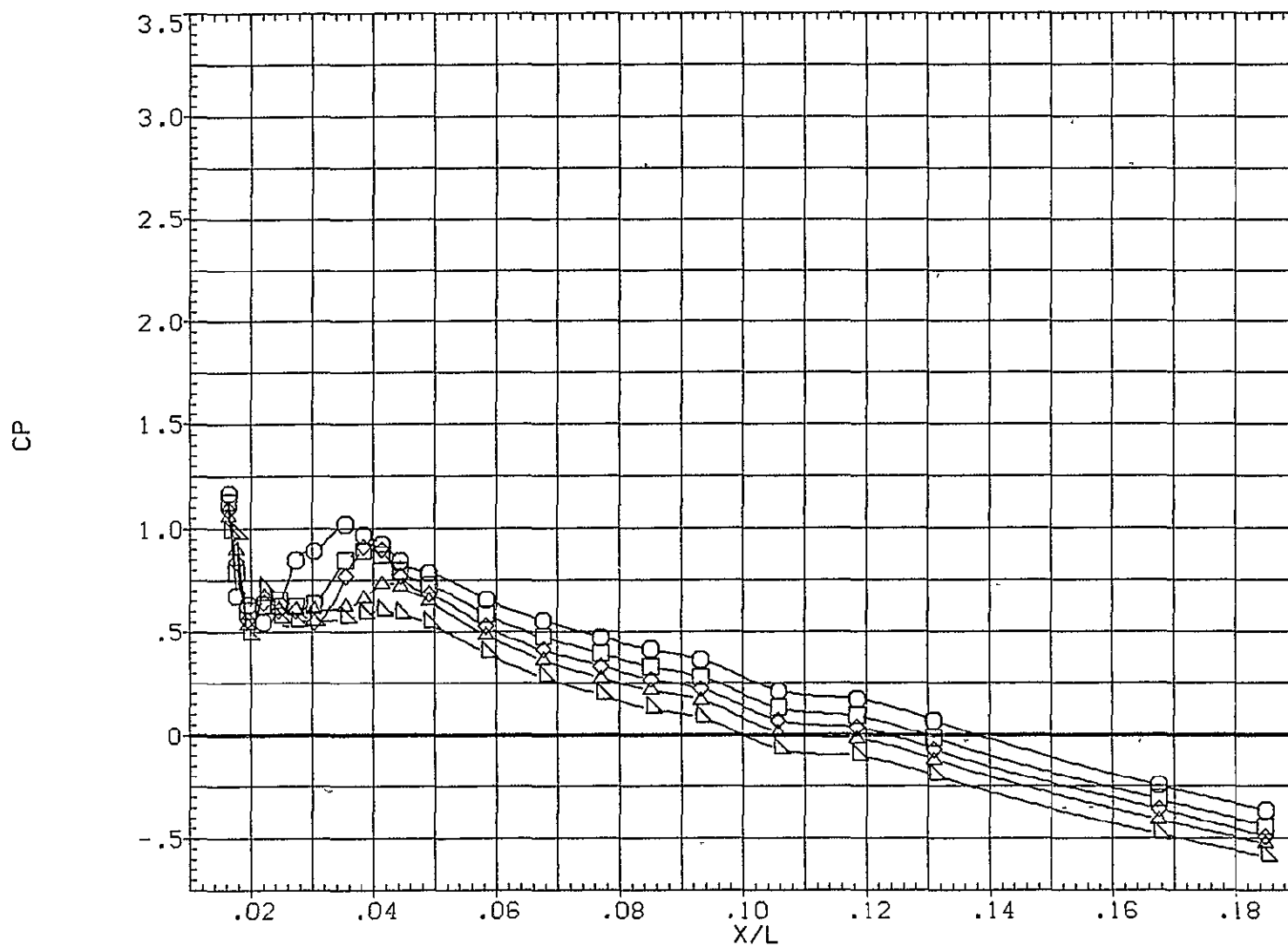
SYMBOL	ALPHA	THETA	MACH	BETA	PHI	PARAMETRIC VALUES	THETA
○	-5.040	.000	.801			.000	
□	-2.040					.000	
◇	-.020						
△	1.960						
▽	4.980						



EFFECT OF ANGLE OF ATTACK ON PRESSURE

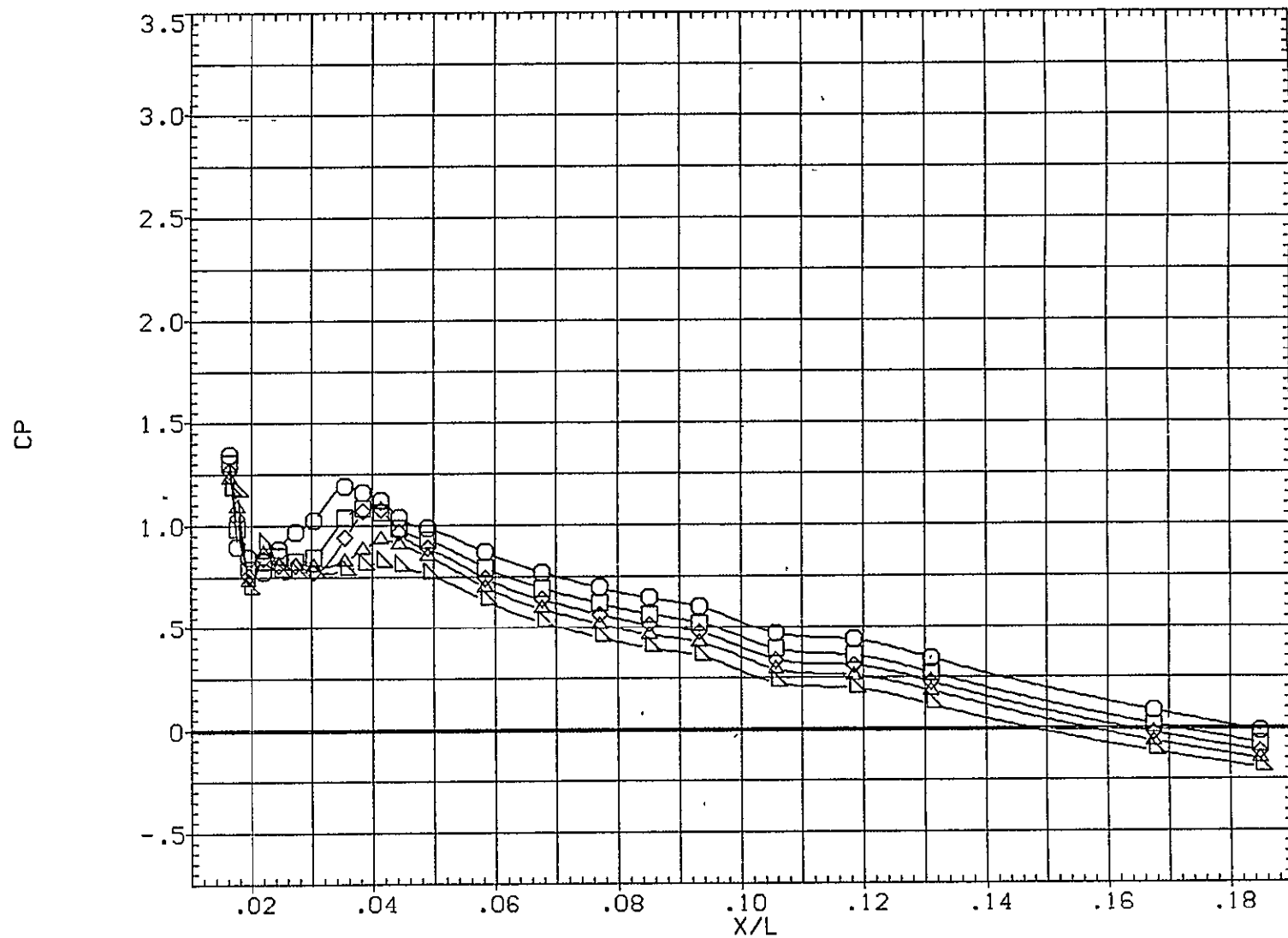
MSFC TWT 609 (TA3F) ET NOSE W/O LIGHTNING ROD (A1G117)

SYMBOL	ALPHA	THETA	MACH	BETA	PHI	PARAMETRIC VALUES	THETA	.000
○	-5.040	.000	.905					
□	-2.040							
◇	-.030							
△	1.980							
▽	4.960							



EFFECT OF ANGLE OF ATTACK ON PRESSURE

SYMBOL	ALPHA	THETA	MACH	PARAMETRIC VALUES	
	-5.040	.000	1.205	BETA	.000 THETA
	-2.040			PHI	.000
	-.030				
	1.960				
4.960					



EFFECT OF ANGLE OF ATTACK ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE W/O LIGHTNING ROD (A1G117)

SYMBOL  
○  
□  
◇  
△  
▽

ALPHA  
-5.040  
-2.040  
-.040  
1.960  
4.960

THETA  
.000

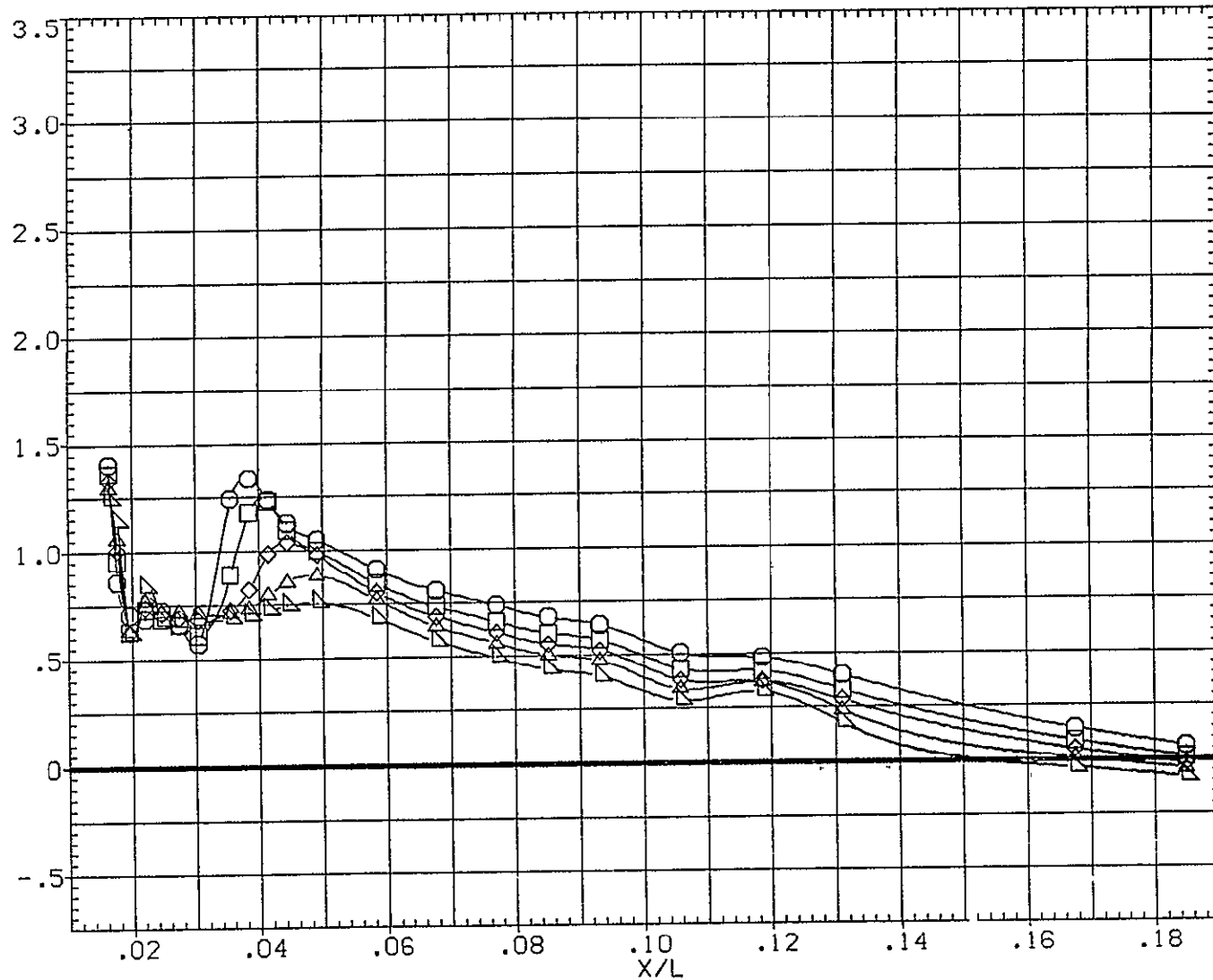
MACH  
1.462

BETA  
PHI

PARAMETRIC VALUES

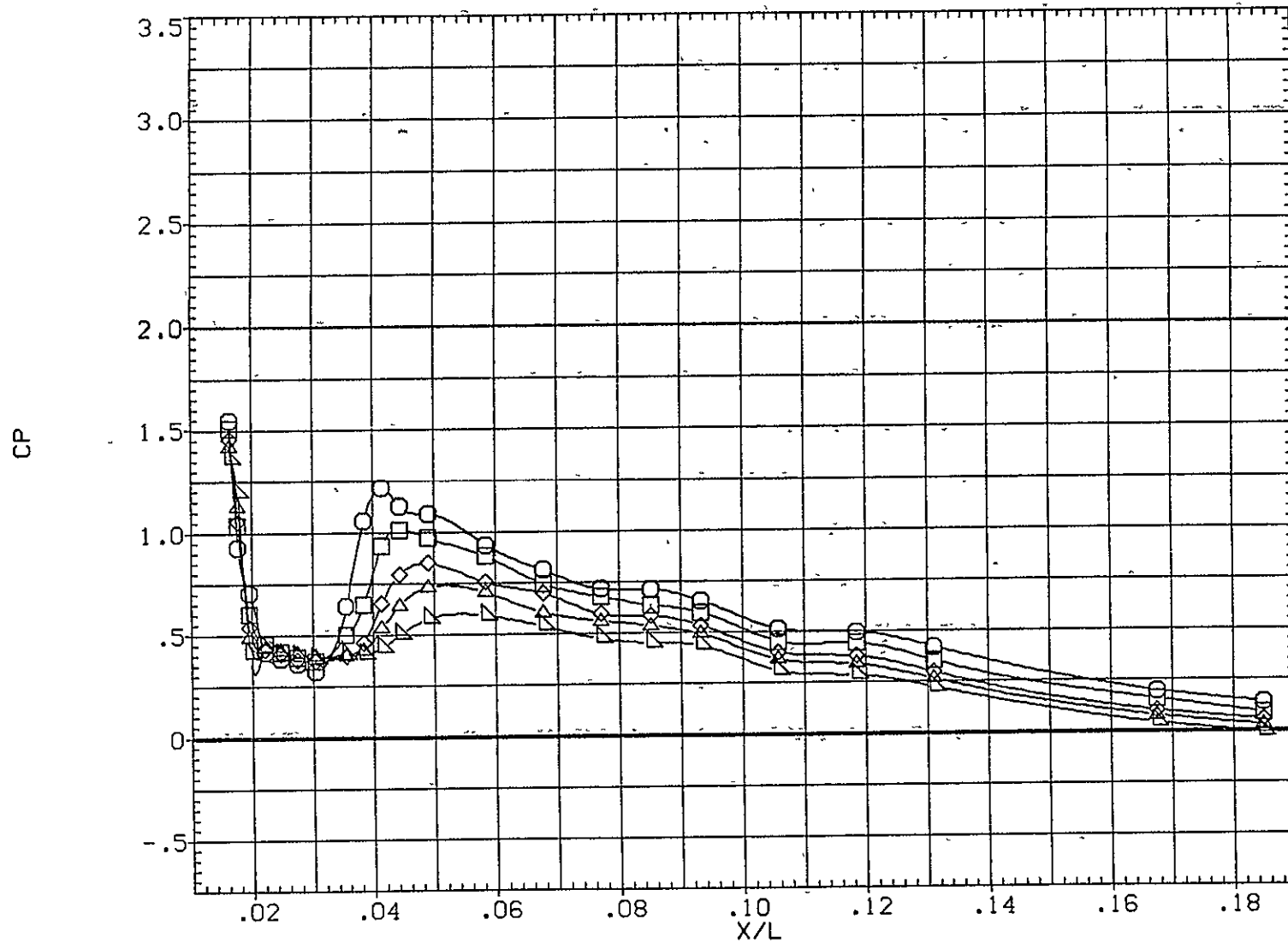
.000 THETA .000  
.000

CP



EFFECT OF ANGLE OF ATTACK ON PRESSURE

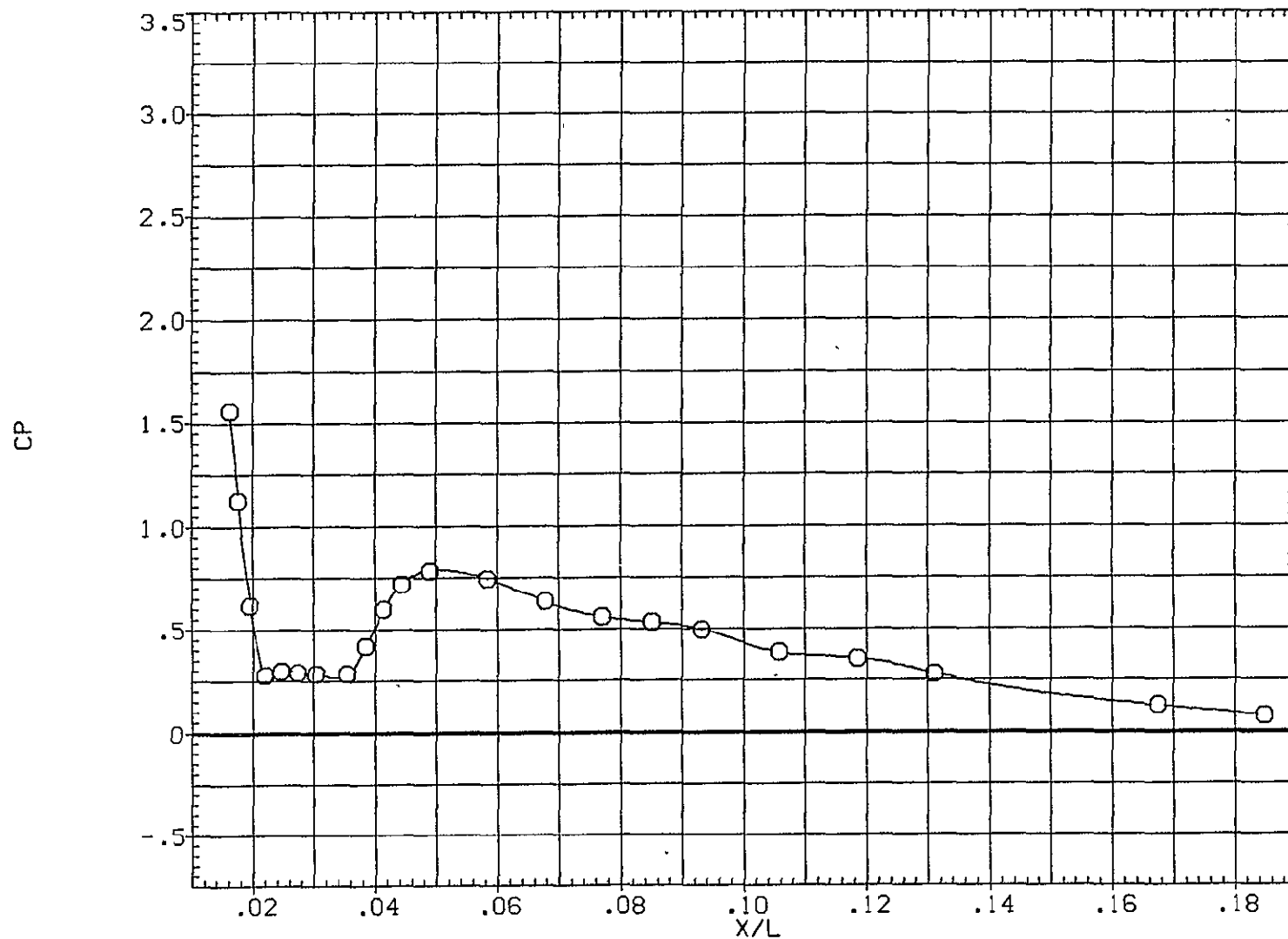
SYMBOL	ALPHA	THETA	MACH	BETA	PHI	PARAMETRIC VALUES	THETA	0
○	-5.040	.000	1.953			.000		
□	-2.040					.000		
◇	-.040							
△	1.960							
▽	4.960							



EFFECT OF ANGLE OF ATTACK ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE W/O LIGHTNING ROD (A1G117)

SYMBOL	ALPHA	THETA	MACH	PARAMETRIC VALUES		
○	-.040	.000	2.990	BETA	.000	THETA
				PHI	.000	



EFFECT OF ANGLE OF ATTACK ON PRESSURE

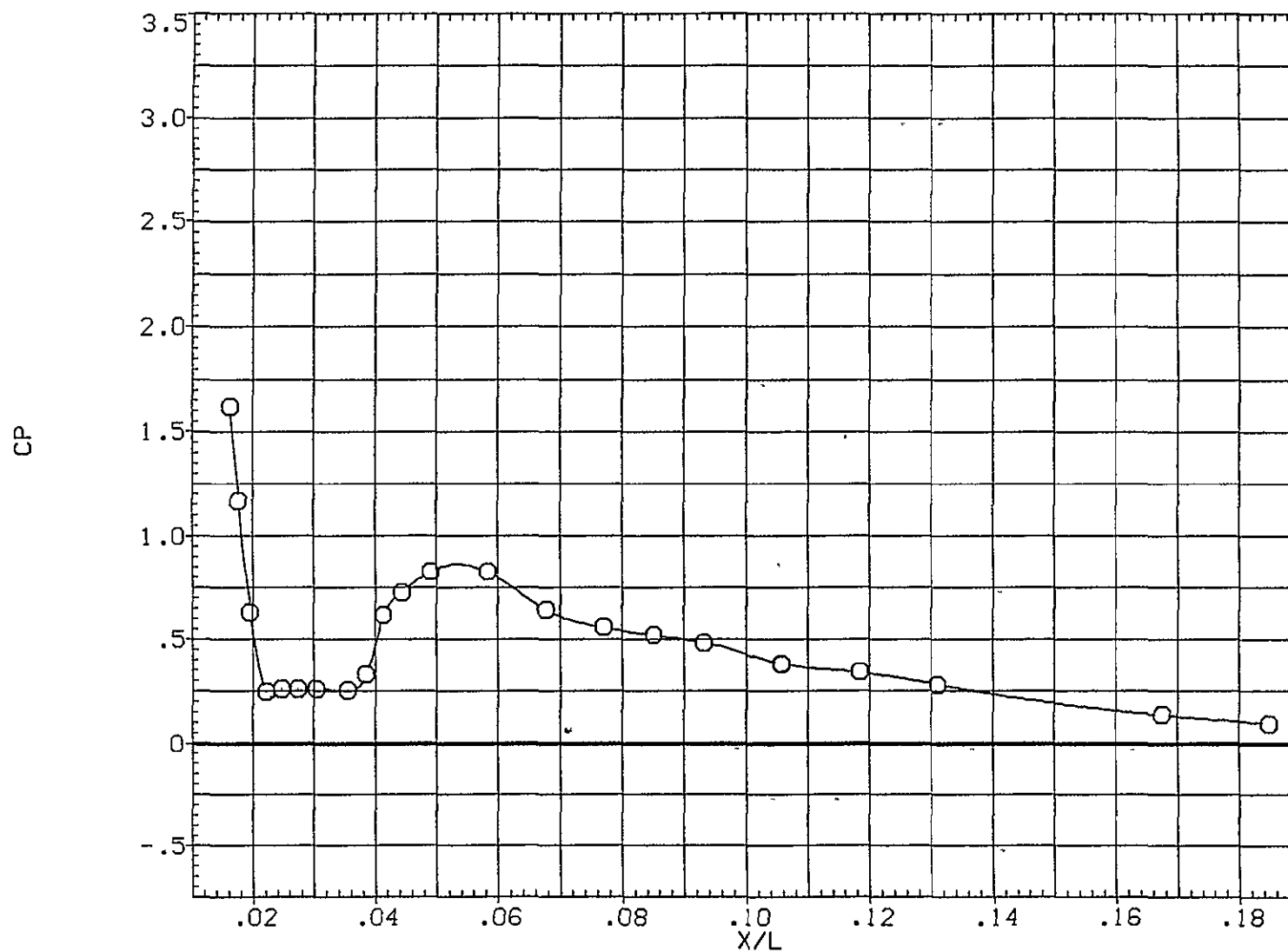
SYMBOL  
○ALPHA  
-.040THETA  
.000MACH  
4.000BETA  
PHI

PARAMETRIC VALUES

.000  
.000

THETA

.000

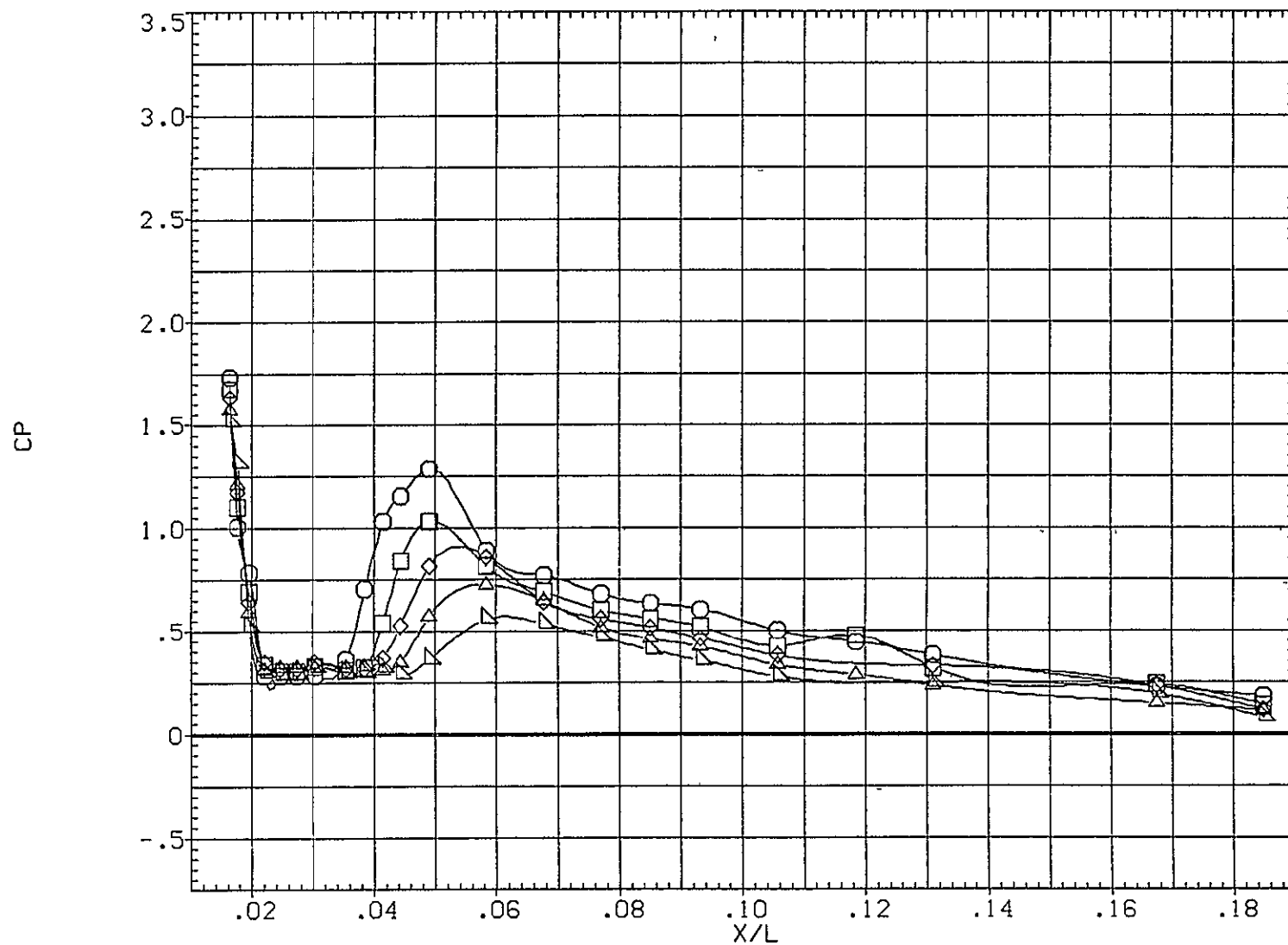


EFFECT OF ANGLE OF ATTACK ON PRESSURE



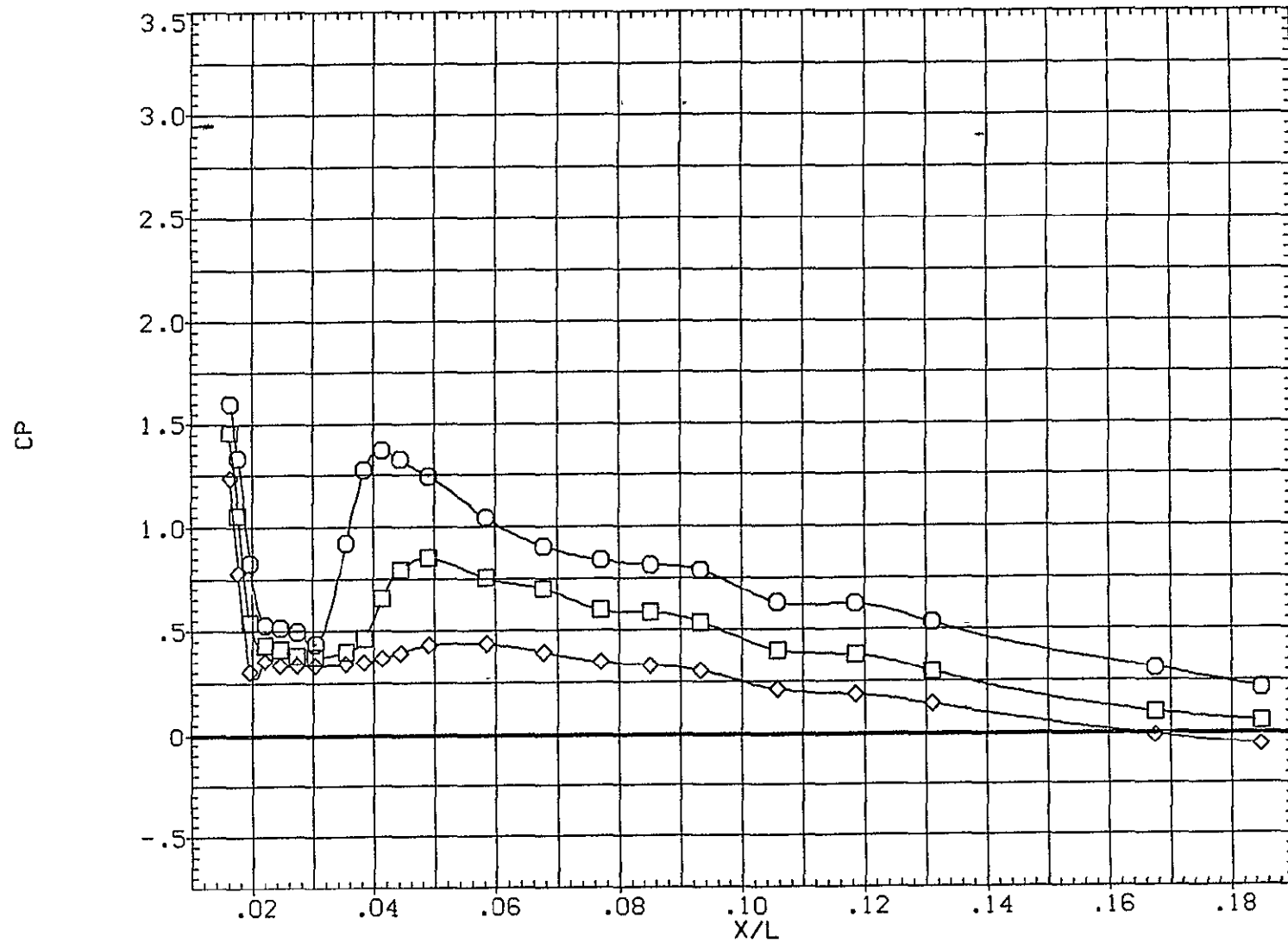
MSFC TWT 609 (TA3F) ET NOSE W/O LIGHTNING ROD (A1G117)

SYMBOL	ALPHA	THETA	MACH	BETA	PARAMETRIC VALUES	THETA	
○	-5.040	.000	4.960		.000		.000
□	-2.040			PHI	.000		
◇	-.040						
△	1.960						
▽	4.960						



EFFECT OF ANGLE OF ATTACK ON PRESSURE

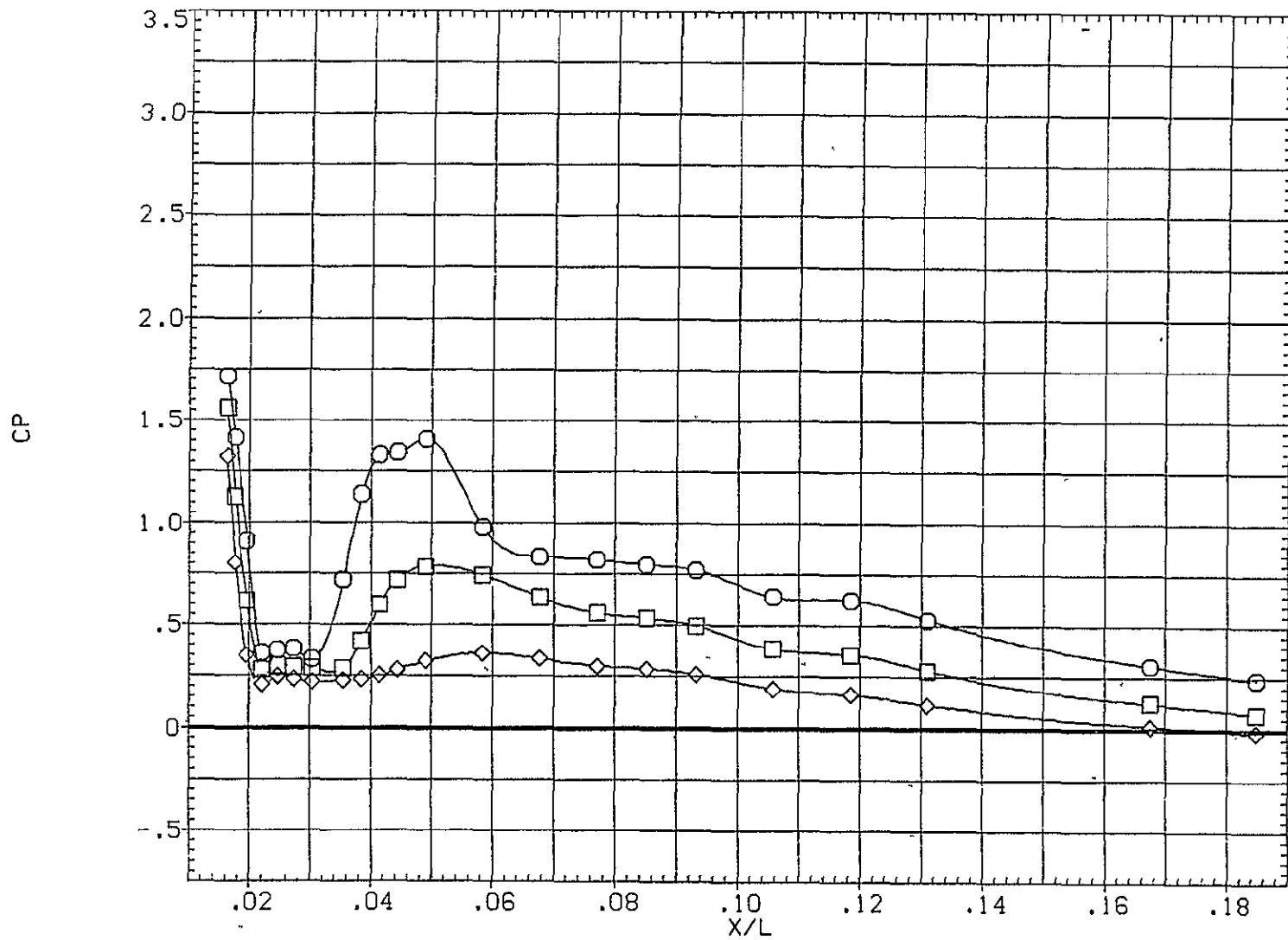
SYMBOL	ALPHA	THETA	MACH	BETA	PARAMETRIC VALUES	THETA	
○	-9.940	.000	1.966	PHI	.000	.000	.000
□	-8.040						
◇	9.860						



EFFECT OF ANGLE OF ATTACK ON PRESSURE

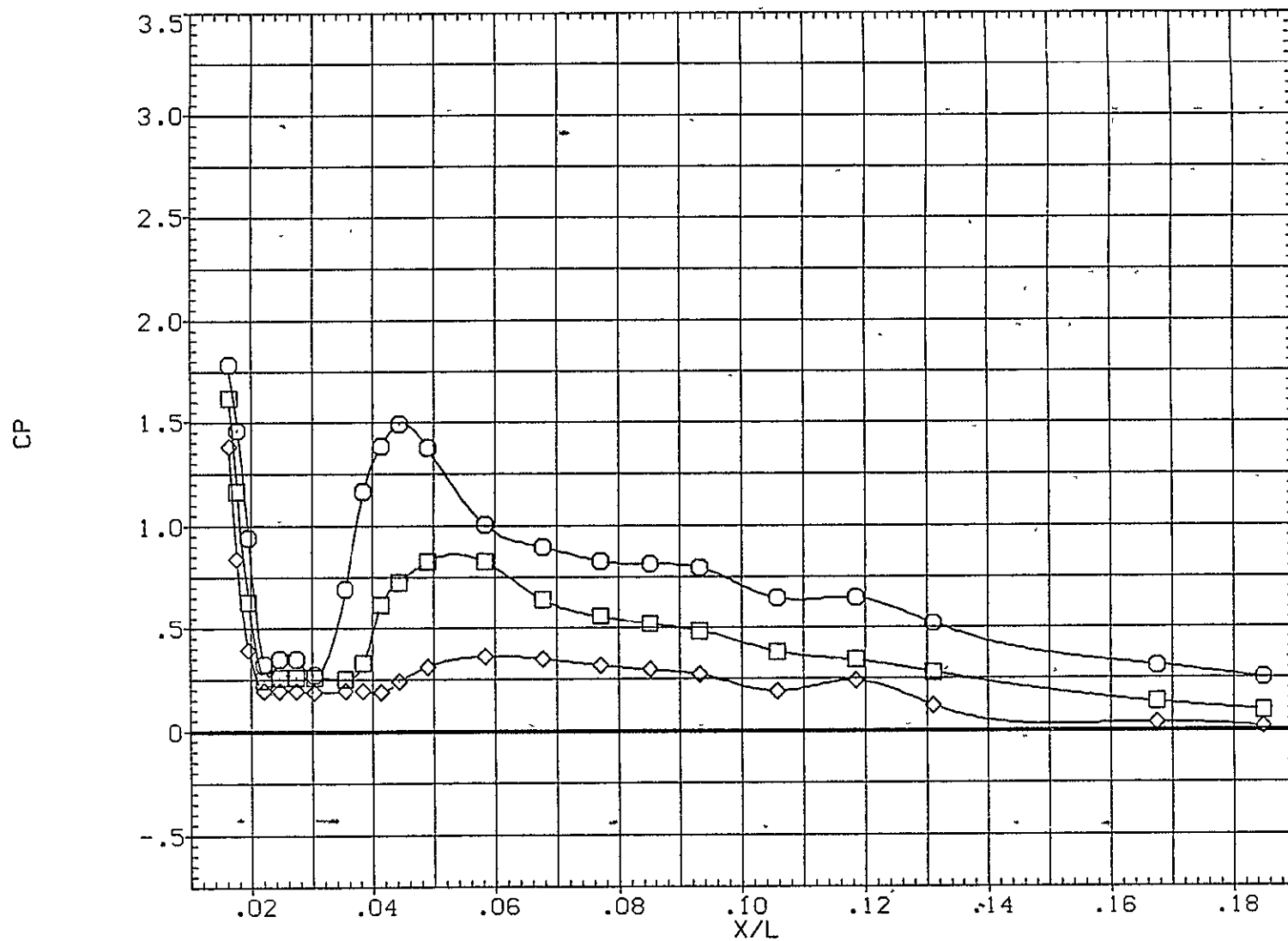
MSFC TWT 609 (TA3F) ET NOSE W/O LIGHTNING ROD (A1G123)

SYMBOL	ALPHA	THETA	MACH		BETA	PARAMETRIC VALUES	
○	-9.940	.000	2.990		PHI	.000	THETA .000
□	-.040						
◇	9.860						



EFFECT OF ANGLE OF ATTACK ON PRESSURE

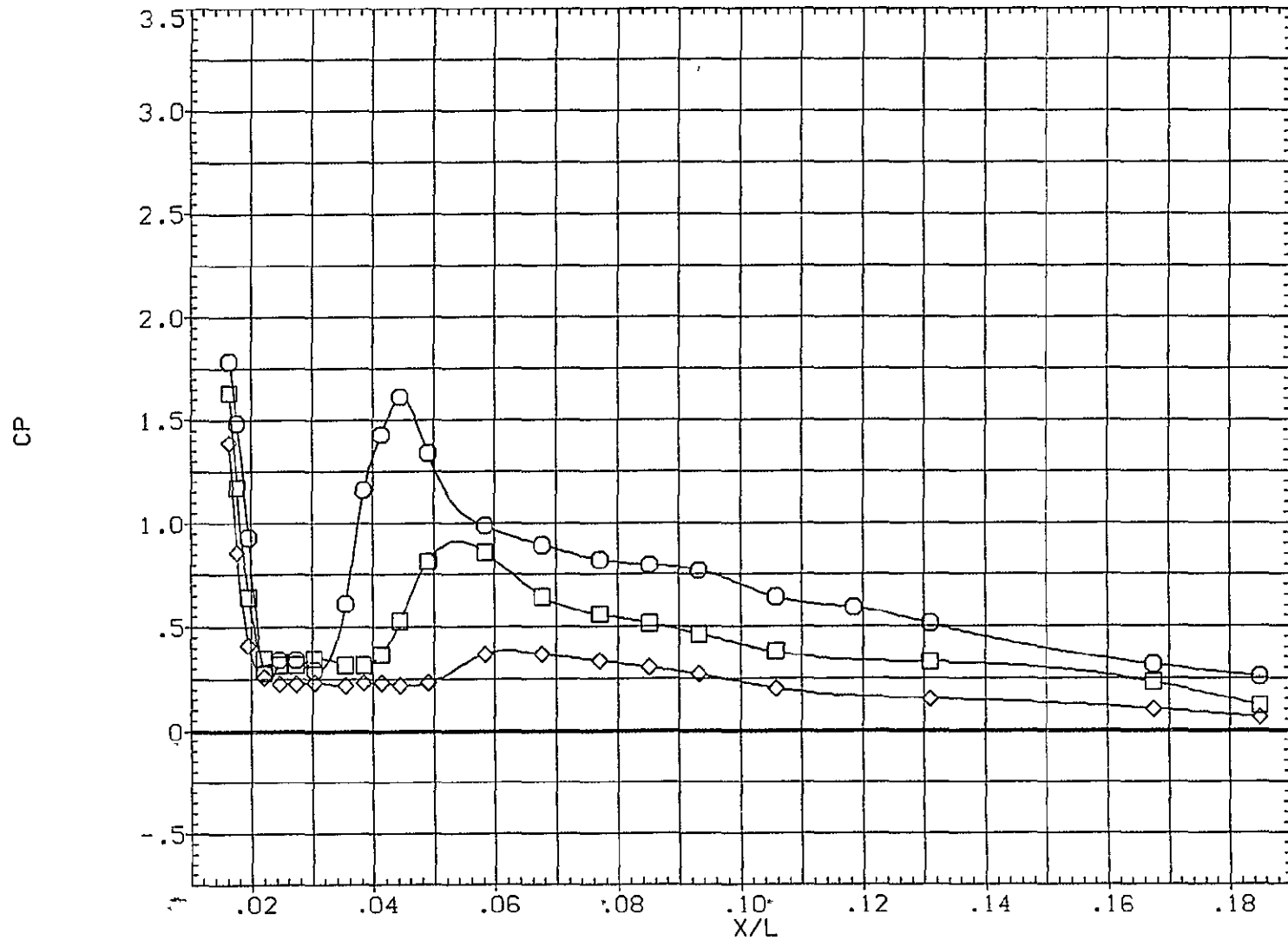
SYMBOL	ALPHA	THETA	MACH	PARAMETRIC VALUES		
	-9.960	000	4.000	BETA	.000	THETA
	-.040			PHI	.000	.000
	9.860					



EFFECT OF ANGLE OF ATTACK ON PRESSURE

MSFC TWT 609 (TA3F) ET NOSE W/O LIGHTNING ROD (A1G123)

SYMBOL	ALPHA	THETA	MACH	BETA	PARAMETRIC VALUES	THETA	
○	-9.940	.000	4.960		.000		.000
□	-.040			PHI	.000		
◇	9.860						



EFFECT OF ANGLE OF ATTACK ON PRESSURE